

LATEST SMARTPHONE, TABLET AND APP REVIEWS

ANDROID ADVISOR

ISSUE
18

FIRST 4K PHONE!

Sony Xperia Z5 line-up is best yet



PLUS

REVIEWED: OnePlus 2, Note 5,
Moto X Play & the best of IFA 2015



Welcome...

HD, Full HD, Quad HD... It's going to take a lot more to impress us now, because at September's IFA 2015 tradeshow we got our first look at an Ultra HD smartphone. After disappointing us at MWC with the Xperia Z3+, which wasn't a big enough upgrade to even warrant the Z4 name in the UK, Sony is back with a bang and has proved it isn't resting on its laurels: the Xperia Z5 Premium is one of THREE new phones in its flagship Z-series; we explain the key differences between each model on page 27.

Of course, it was before IFA 2015 even began that we saw some of the most exciting new smartphones of the year. It might not be officially coming to the UK, but that didn't stop us getting hold of the Samsung Galaxy Note 5 (reviewed on page 34). We've also been taking an in-depth look at the OnePlus 2 (page 3), a Chinese handset with interesting new eye-scanning security (the UMI Iron is reviewed on page 77), and two new Motorola's, the Moto G (page 58) and the Moto X Play (page 47).

Smartwatches are all the rage, too, with Huawei finally announcing pricing and availability for its Watch – find out why it was worth the wait on page 88. We've got hands-ons with the brand-new Moto 360 (page 98) and Samsung Gear S2 (page 91), too.

As always, we hope you've enjoyed this issue of Android Advisor. Feel free to send us your feedback via facebook.com/AndroidAdvisorUK or email marie_brewis@idg.co.uk.



Out now: OnePlus 2

A magnificent Android phone, and not just for the money

Few smartphone launches get fans as excited as a OnePlus event. Ignoring for now the fact that it happened to be the world's first product launch in VR, it's not difficult to see why there's so much enthusiasm toward the Chinese company. The OnePlus 2 is a magnificent Android phone.

We're fighting the urge to append 'for the money' to that latter statement, because the OnePlus 2 offers unrivalled value in the smartphone space. But that would make it seem somehow cheap, and make no mistake: this is a flagship phone with high-end specifications. It just happens to be one

with an almost too-good-to-be-true price tag. So is it too good to be true?

In our opinion the best phone you can 'officially' buy in the UK today is the Samsung Galaxy S6. For the comparable 64GB version four months after its launch you're looking at £455.71 SIM-free from Amazon. The OnePlus 2 doesn't match the S6's specification, but it's very close on several fronts, and even throws in a couple of extras, yet it costs just £289 for the 64GB model. That's less than half the RRP, and nearly £170 off the shelf price. A 16GB version is also available for £239.

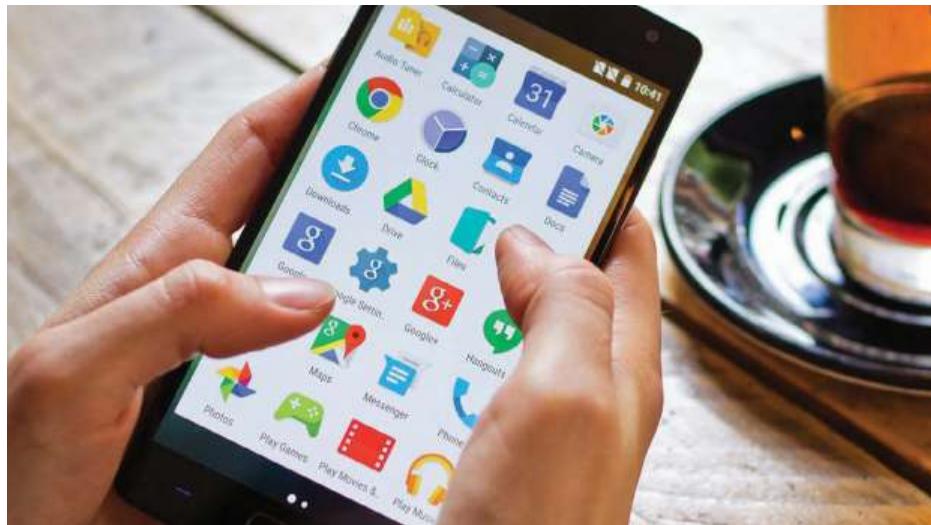
We've just given you prices for the 64GB S6 and OP2 for good reason: not only is doing so necessary in order to fairly compare them, but neither phone has support for microSD. We think 64GB is plenty of storage for most users, given the availability of cloud storage and other means to add storage to Android, but 16GB may well not be.

With its original OnePlus One smartphone this then-tiny Chinese company came from nowhere with the product everyone wanted and no-one could get hold of, fiercely fuelling hype over it. This underdog is still relatively unknown to the average man on the street, but all Android enthusiasts have heard of OnePlus, and few will be able to hide their intrigue over the new OnePlus 2.

As before, the OnePlus 2 will prove difficult to get hold of, with the company requiring you to buy the OP2 through invitation only. OnePlus claims it has improved its invitation system, added the ability to reserve an invitation, and made sure it has more phones in stock. Even so, it's inevitable that OnePlus will once again struggle to make supply and demand

work in unison together. Indeed, we're still waiting for our official review sample of the OnePlus 2, a full 10 days after it went on sale and more than three weeks after it was unveiled. Mind you, that's an improvement over the OnePlus One, for which OnePlus refused to even supply a review sample. So how are we writing this review? Well, we did what all impatient OnePlus enthusiasts do and found another way to get hold of the OnePlus 2.

Although you need an invitation to buy the OnePlus 2 directly from OnePlus, you don't need to hang around if you're prepared to buy from a third-party distributor. We received our sample from Geekbuying, which says it has stocks of both the 16- and 64GB models. We don't know how long these stocks will last, so if you want it then you probably shouldn't wait too long. You'll pay a little extra for the privilege of buying now, and you need to weigh up the risks of buying from a grey-market site, but we



wouldn't hesitate to recommend Geekbuying, which we have used on many occasions in the past.

The 64GB Sandstone Black OnePlus 2 we review here today costs £305.58 from Geekbuying, and for those who care about these things, runs the software build A2001_14_150725, which confirms it is not the European version of the OP2. It does come with a two-pin charger, but Geekbuying will throw in a free UK adaptor for you.

Meanwhile, the 16GB OP2 costs £262.85 from Geekbuying. Free shipping is available, but delivery from China can take several weeks; faster paid options are also available.

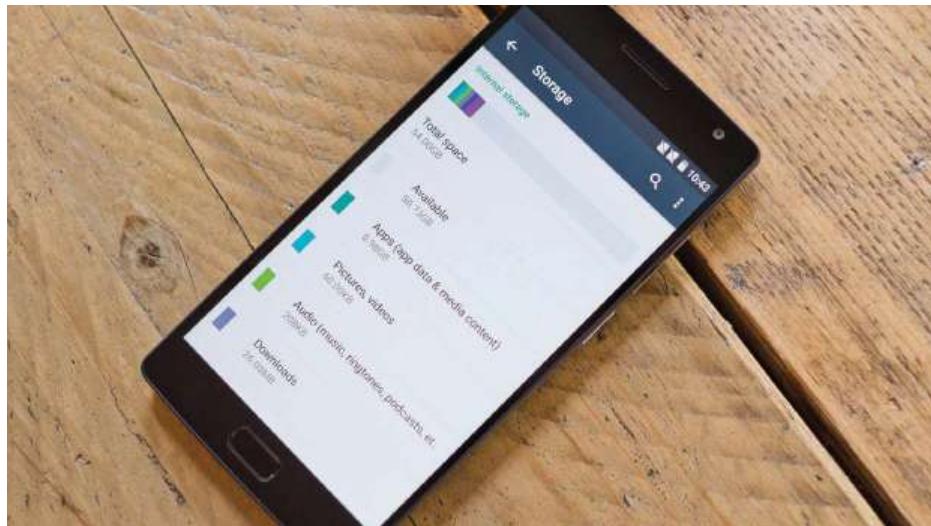
So is the OnePlus 2 deserving of its hype? Yes and no, but mostly yes. A flagship phone with a mid-range price, the OnePlus 2 has some quirks but also several highlights in its specification.

It's one of the first Android phones to market with a reversible USB Type-C charging port, which will become more common with 2016 flagships as Google builds in USB Type-C support to Android 6.0 Marshmallow, and the supplied cable is also reversible at the Type-A end. In comparison with the original OnePlus One the 2 also has a slightly higher-capacity battery, now 3,300mAh in place of the previous 3,100mAh cell, but unfortunately it doesn't support Qualcomm Quick Charge or wireless charging out of the box. This means it will take two- to three hours to charge (over a relatively hard-to-come-by cable) and, for me at least, that could be a deciding factor.

It features the same Qualcomm Snapdragon 810 chip that is found in the HTC One M9 and was originally slated for the Samsung Galaxy S6, but this

is a second-generation chip that is said to have been optimised for OnePlus' Oxygen OS and avoids the overheating problems of its predecessor. This chip is paired with 4GB of LP-DDR4 RAM (3GB in the 16GB model) and Adreno 430 graphics. All that means performance is more than capable for everyday users. In fact it's very good, if not the best you'll find on the Android phone market. (Although it does tend to get somewhat warm toward the device's top with prolonged- or heavy use.)

The OnePlus 2 is also a dual-SIM phone and, although it's dual-standby rather than dual-active, we were impressed to find that both SIMs operate on 4G. Dual-SIM phones are becoming increasingly popular in the UK if traffic to our best dual-SIM phones article is anything to go by. Dual-standby means that although you can use either SIM for mobile data, you must set a preference for which one you want to use before you go online. For

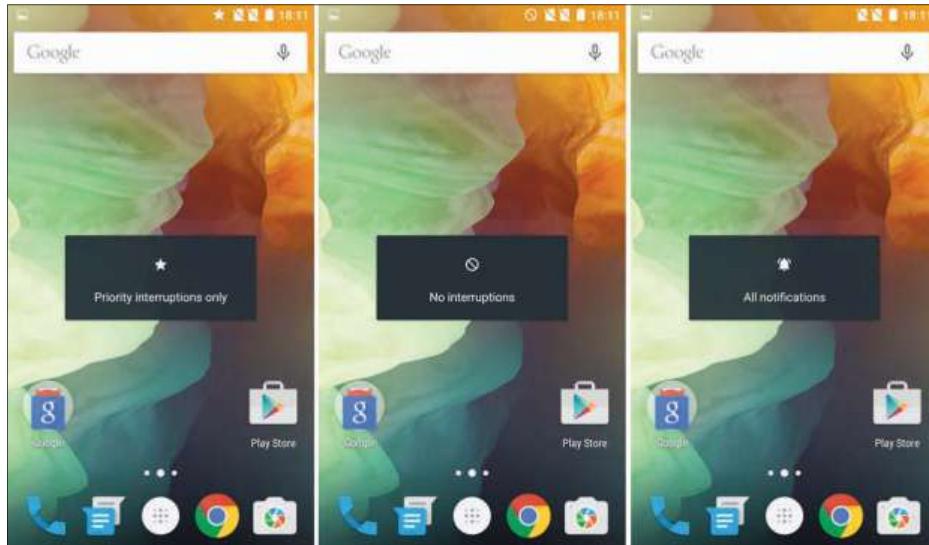


calls and texts you can also set a preference, or get the OnePlus 2 to ask which SIM you want to use before the call is connected or message is sent. With both SIMs on standby, you'll be able to answer calls and receive texts on either number, but only one number can accept a call at once. Learn more about dual-SIM phones.

Other connectivity options include the latest 802.11ac Wi-Fi, Bluetooth 4.1 and GPS, although you won't find a microSD card slot or NFC in the OnePlus 2. In the real world the latter is useful only for making mobile payments, and even that is still in its infancy in the UK. We can certainly wait until the OnePlus 3 for NFC, but it is nonetheless a notable omission with Android Pay soon to launch.

The OnePlus 2's design is very similar to that of the OnePlus One, a fraction shorter but a little chunkier and wider. There's a new Alert Slider on the left side and physical home button with fingerprint scanner on the front, twin speaker grilles (although just the one speaker) and a USB Type-C port at the bottom, a volume rocker and power button on the right, and a headphone jack at the top. The rear cover has the same grippy sandpaper-like rough texture as that of the OPO – a useful feature for a large 5.5in phablet that could otherwise be easy to drop – and it's removable, allowing you to swap in a new cover and giving access to the twin-Nano-SIM tray and non-removable battery.

The fingerprint scanner, in common with that of the Samsung Galaxy S6 and iPhone 6, uses touch- rather than swipe-based input, which means it actually works. You can configure up to five fingerprints to work with the OnePlus 2, allowing



you to also set up a fingerprint for use with a Guest account. Even better, the fingerprint scanner is operational even when the screen is inactive. On the down side, the home button itself is sometimes unresponsive or at least slow to respond.

Something we haven't seen before is the OnePlus 2's Alert Slider. To be quite honest I get an awful lot of work emails and my phone is almost always on vibrate mode, so it's not something I'd use, but we're sure many Android users will find useful the ability to alter what types of notifications are allowed to disturb them without even taking the phone out of their pocket.

A hardware component that hasn't changed is the screen. This 5.5in full-HD IPS panel can't live up to the ultra-crisp Quad-HD resolution of phones such as the Galaxy S6 and LG G4, but OnePlus reckons it's found the sweet spot between a decent display

and one that places too much drain on the battery. Sat beside our S6 we won't pretend you can't tell the difference - the screen on the S6 is brighter, more vibrant and even clearer, making the OnePlus 2 look almost dull by comparison – but the OnePlus' screen is very decent nonetheless, and the company is keen to point out that its 600 nits brightness compares well to the 559 nits of the iPhone 6. Viewing angles are good, too, at 178 degrees.

As before the cameras are set at 5- and 13Mp at the front and rear respectively. For standard photography it offers a dual-LED flash, optical image stabilisation, a laser autofocus (which focuses in 0.3 seconds), an f/2.0 aperture, 1.3µm pixels and six lenses to avoid distortion and colour aberration, and the OnePlus 2 can shoot 4K-, time-lapse- and slow-mo video. We found the laser focus a bit jerky during recording, but camera performance is otherwise good for the money – but the best phone



camera 2015 title goes to joint winners the Galaxy S6 and LG G4. RAW support will be added via an update in the coming weeks.

New to the OnePlus 2 is Oxygen OS, which is based on Android Lollipop (the OnePlus One ran CyanogenMod 11S, based on KitKat). It's very much like stock Lollipop, but with some useful additions. Customisations include the ability to set preferences for the functionality of the physical home button and software recents and back buttons, a handful of gestures that work while the screen is switched off, a Dark mode, scope to alter the accent and LED colours, plus the ability to control app permissions. All these things are common to Chinese phones, but new to UK users who are more familiar with the Samsung Galaxies and HTC Ones of this world.

Oxygen OS also features the in-beta Shelf, which sits a single swipe away from the home screen and displays your most frequently used apps and contacts, plus weather information. And there's an Audio Tuner, which lets you fine-tune the bass, treble, balance and more to preset audio profiles for music, movies and games.

Have we whet your appetite for the OP2? Let's take a more in-depth look at what the new OnePlus brings to the table.

Design and build

The OnePlus 2 is a large and sturdy-feeling black slab of a phone with a 5.5in screen; it's almost too large for us, but phablets such as this are becoming increasingly common in 2015 so it's clear there is a demand. We wouldn't want to go any larger, but the OP2 is just about usable in a single hand and

its grippy, sandpaper-like and slightly curved rear helps prevent you from dropping it as your thumb stretches to the far corner of the screen.

This rear cover is removable, and extremely thin and flimsy. Given that the battery is non-removable and there's no microSD slot, we can't envisage you needing to take it off too often, however – all it gives access to is a dual-SIM slot. While a side-opening SIM tray would have done the trick, OnePlus also sells removable covers in Bamboo, Rosewood, Black Apricot and Kevlar for £19.99 each, which may appeal if the standard Sandstone Black does not. And anyway, we found no creaking or flexing in the OP2's chassis, which is often the case with phones with removable backs.

On the rear you'll see the OnePlus 2's 13Mp camera with dual-LED flash. There's also a strange-looking sensor here that works the laser autofocus. Unlike many high-end phones the rear camera doesn't protrude from the case, which nets the OP2 a thumbs-up in our books. We'll speak more about the camera performance later on in this review.

The OnePlus 2, despite its size, is a good-looking smartphone. It's a plastic phone but with a stylish metal trim, and as is fairly standard for Android phones you get a volume rocker and power button on the right side, and a headphone jack at the top. Down the bottom are two speaker grilles, which make it appear that you get stereo speakers; you do not. Instead, the single speaker sits under the phone's right speaker grille, and if you're not careful you could smother it with your palm. Of course, this is no different to many other flagship phones on the market, including the Galaxy S6. With the speaker

free from your palms the OnePlus 2 is capable of some decent-volume audio and, as we'll see in the software section, has controls to configure audio presets for music, movies and games.

New to the OnePlus 2 is a physical home button with a built-in fingerprint scanner, which sits in the middle of two software buttons – recents and back – the functionality of which you can reverse in the Settings. We say physical, but actually it feels more like a software button with a hardware ring rather than a button you can actually like, you know, push.

When we first began testing the OnePlus 2 we found this home button rather unresponsive, which led us to the impression that it could actually be just a fingerprint scanner and not a home button at all. Over time, though, either we got used to it or it became more responsive. It remains the single-most laggy aspect of the OnePlus 2, taking a



second or two to spring into action, but the gentle tactile response you get when tapping it does at least confirm you have pressed it and aren't waiting around for the bus that will never come.

Regardless of our gripes with the home button, the fingerprint scanner itself is incredibly good, and OnePlus says it can scan your fingerprint in just half a second. Like that on the Samsung Galaxy S6 and iPhone 6 it accepts touch- rather than swipe-based input, which is far more accurate – in our tests it worked nearly every time. You can save up to five fingerprints on the OnePlus 2, which means you could spare one or two for Guest users, making use of the phone's ability to configure a Guest account and keep prying eyes away from your personal stuff. Better still, the fingerprint scanner works even when the screen is switched off, meaning you're a step closer to using the phone. If only the OnePlus 2 had NFC it could be an ideal tool for secure mobile payments.

Also new to the OnePlus 2 is a hardware notifications slider known as an Alert Slider. It's the first of its kind we've seen on a smartphone, and allows you to toggle between no interruptions, priority interruptions and all notifications without even taking the phone out of your pocket. As we mentioned in our introduction, this isn't a feature that especially appeals to us personally, but we know many Android users who would like this to not only feature on their phone but to become a standard feature of Android phones.

The charging port on the OnePlus 2 looks different to that of any other Android phone we've seen. It's quite a bit larger than what we're used



to with Micro-USB and symmetrical in shape. This is a USB Type-C port and, although the OP2 isn't the first smartphone to include one, it is the first that we have reviewed. USB Type-C is a reversible connection, meaning you can insert the connector either way up and it will still work.

The USB Type-C cable supplied with the OnePlus 2 is also reversible at the Type-A end (that which goes into your mains adaptor or PC's USB port). It's a pretty cool-looking cable, with a flat, tangle-free design and bright red colouring. Which is good, since it's probably the only USB Type-C cable you'll own and you will be carrying it around everywhere you go in order to keep the OP2 topped up.

Sadly, the USB Type-C connector implemented here works over USB 2.0 and not the faster USB 3.0 protocol. Slow connections is something

of a theme for the OnePlus 2: for some absurd reason, despite the Snapdragon 810 chip inside the company has neglected to include support for Qualcomm Quick Charge 2.0, which can reduce charging time by up to 75 percent. That's our single biggest gripe with the OP2, and the fact it also lacks support for wireless charging is a kick in the teeth when you're already down.

Something that hasn't changed from the OnePlus One is the screen, and the OnePlus 2 is as before fitted with a 5.5in IPS panel with a full-HD resolution. At 1920x1080 pixels, it has a pixel density of 401ppi.

We think we may have been spoiled by the gorgeous Quad HD Super AMOLED panel fitted to our everyday Galaxy S6, because sat next to it the OnePlus 2 just doesn't compare. The Samsung is notably crisper, colours are more vibrant and the screen is brighter. The OP2 looks almost dull by comparison – but it's not.

Take away the S6 from the mix and the OnePlus' screen starts to look a lot better. It has a 600 nits brightness rating that is higher than that of the iPhone 6, and it has excellent viewing angles. Colours are indeed more vibrant with AMOLED tech, but in response IPS offers a more realistic colour palette.

Hardware and performance

It's difficult to find fault with the core hardware inside the OnePlus 2. If, as we have done, you get the 64GB version you'll get 4GB of LP-DDR4 RAM, which is a massive amount for any phone. The 16GB OP2, by comparison, has 3GB of RAM. Neither support microSD storage expansion, so choose your model



carefully. The processor is the same Qualcomm Snapdragon 810 as found in the HTC One M9, but here it's a second-generation octa-core chip, clocked at 1.8GHz, which OnePlus says has been optimised both for the software and to avoid the overheating issues that allegedly led Samsung to use its own Exynos chip inside the Samsung Galaxy S6. We did notice that, despite OnePlus' claims of a cooler-running processor, the phone could get warm toward the top with heavy- or prolonged use. The same is true of just about every phone, of course.

Benchmark scores can be misleading, since results can vary each time you run them (we average the best of three results), and they can lead some readers to believe phone A is not worth buying because it is slower than phone B when in fact both are incredibly fast and more than capable for day-to-day use. What counts more is real-world experience, and in our time with the OnePlus 2 the only time we



ever noticed any significant lag was when waiting for the home button to do its thing, and when taking photos. (The autofocus is fast, the actual photo capture and saving process not so much.)

We ran the OnePlus 2 through our usual benchmarks and compared it to its predecessor, the OnePlus One, a close rival, the HTC One M9, and the two fastest Android phones we've seen to date, the Samsung Galaxy S6 and S6 Edge.

We use Geekbench 3.0 to measure overall performance. The leader in this benchmark was the S6 Edge with 5076 points; second was the S6 with 4438; third, the OnePlus 2 with 4094; fourth, HTC's One M9 with 3778; and fifth, the original OnePlus One, with 2570 points.

Geekbench 3.0 is also used to measure battery life, although it's a relatively new test to the Android Advisor lab and we have results only for the S6 and S6 Edge of the aforementioned phones.

Unsurprisingly the OP2 came in third place behind those phones, with 3390 points against their 4136 and 4011 respectively. In real-world use the OnePlus 2 is quite capable of at least a full day's use away from the mains, but the OP2 is lacking an ultra power-saving mode, and the lack of wireless charging and Quick Charge 2.0 support is a major bugbear. It could take between two- and three hours to fill this phone's battery using the supplied adaptor.

GFXBench 3.0 is used to test graphics performance, and here the OnePlus 2's Adreno 430 GPU turned in an outstanding 46fps in T-Rex and 16fps in Manhattan. That's faster than the S6 (30fps T-Rex, 14fps Manhattan) and S6 Edge (39fps T-Rex, 16fps Manhattan), but a little behind the HTC One M9 (50fps T-Rex, 24fps Manhattan), which uses the same GPU. The OnePlus One managed 29fps in T-Rex, and we didn't run the Manhattan test on it.

SunSpider is another benchmark we use for web or JavaScript performance. The OP2 didn't put in a great showing here – not disastrous, but not ideal – with 1471ms scored. In this test a lower score is better, so the OP2 gets shown up by the HTC's 867ms, S6 Edge's 990ms, S6's 1048ms and even the OnePlus One's 877ms.

Finally, we ran AnTuTu on the OnePlus 2, and noted an average score of 56,299 points. Others have seen higher scores in the low 60s, which just goes to show how you should take benchmark results with a pinch of salt.

Connectivity and other features

We touched on the OnePlus 2's dual-SIM functionality in our introduction. There is a rapidly growing interest in dual-SIM phones in the UK, since these smartphones allow you to carry separate SIMs for work and home, or perhaps two SIMs with different tariffs for home and abroad, without needing to carry two smartphones. In the vast majority of cases only one of the two SIM slots in a dual-SIM phone will support 3G/4G mobile data, and quite often you'll find they mix Nano-, Micro- and full-size SIMs, making it impossible to switch them around on the fly.

What's great about the OnePlus 2 is that although you must set a preference for which SIM you use for data before you go online, both are Nano SIM slots and both support 4G. For calls and



texts you can either set a preference for which SIM to use, or you can request that the OP2 asks you each time which you'd like to use. Because the OnePlus 2 is a dual-standby phone, either SIM will be able to accept calls or texts.

The connectivity specs are otherwise fairly standard for a flagship Android phone - dual-band 802.11ac Wi-Fi, Bluetooth 4.1, GPS - but with the notable omission of NFC. This has actually been removed from the OPO because the company felt people weren't using it. (Erm, but we were about to.) With a new fingerprint scanner and Android Pay soon to launch in the UK, it's a bizarre move. Right now, we don't think UK users will find the lack of NFC and inability to use mobile payments services too much of a pain, but given that this is supposed to be not only a 2015- but a 2016 flagship killer, it's something of an oversight.

Cameras

The OnePlus 2 is fitted with a 13Mp rear camera with six-element lens that's capable of shooting 4K, time-lapse and slow-motion video. It has all the features you would expect for a flagship camera, including optical image stabilisation, a laser autofocus (which can focus in under 0.3 seconds), a dual-LED flash, an f/2.0 aperture and 1.3µm pixels that should work more effectively in low-light environments.

The camera app itself is easy to use, letting you swipe in from the side of the screen to access camera modes and settings, while buttons to turn on or off the flash and switch to the 5Mp wide-angle selfie-camera are on screen at all times. Photos are by default shot in a 4:3 aspect at 12.4Mp, or you can



choose 7.9Mp 16:9 or 9.3Mp 1:1. You can also select Beautify, HDR or Clear photo modes, with the latter stitching together several images to create one super-clear shot.

In our tests the camera worked well and produced shots worthy of a flagship camera, with lots of detail in our close-up shots but as you'll see at long distance the bricks on the St Pancras Hotel begin to lose their definition (see above). It did take a while to capture shots, though, and in our hands-on with the OnePlus 2 (see opposite) we weren't overly impressed by the low-light performance. Our main gripe, though is with video – no matter which mode



you use the laser focus appears to make the footage jerk as it locks on to the focus. This is likely just a software issue, which will hopefully be cleared up with a future update.

Software

We really like Oxygen operating system, which is a custom version of Android Lollipop. Unlike so many other mods, Oxygen OS simply adds to the existing Android experience rather than replacing or taking anything away. On the whole the experience is largely vanilla Lollipop, but with some nice little extras. One of the first things

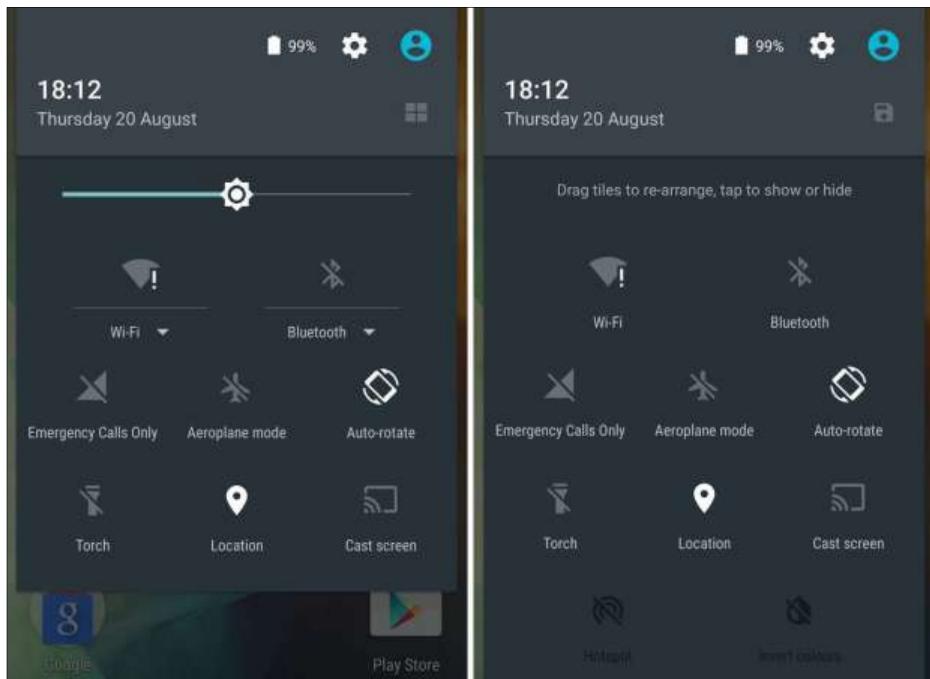
you'll notice is some new additions in the Settings menu for Buttons and Gestures. The former lets you set the function of the home button and the two software buttons that sit to either side of it, while gestures allows you to turn on the ability to access some of the OP2's key features in a single step from screen off. You can double-tap to wake the screen, or draw an O to open the camera, a V to turn on and off the torch, and II, < and > to play, pause and skip audio tracks.

These will be new features to those accustomed to European phones, but gestures such as these are a standard feature of Chinese phones. In fact, many of the Chinese phones we review have many more gestures and allow you to create your own custom gestures for launching specific apps.

Something that's coming with Android 6.0 Marshmallow is greater control over app permissions, but it's already here with the OnePlus 2. You can access and turn on or off the individual app permissions for every app you install on the OP2. This doesn't include preinstalled apps, but there are very few of those beyond the Google essentials.

One we especially like is the Audio Tuner, which lets you fiddle around with the treble, bass, balance and more for a variety of audio types, such as Jazz, Hip Hop and Metal, and then configure presets for music, movies and games.

Within the Customization menu is a Dark mode, which switches the black text on a white background to white text on a black background and should be easier on the eyes in certain situations. When Dark mode is enabled you can also alter the accent colour, and at any time you can change the colour



of the LED notifications that show when the battery is full, charging or low, or you get a new notification. A nice but small tweak is in the drop-down quick settings menu (see above), where a small tile icon lets you rearrange the ordering of or hide/reveal the settings most important to you.

Still in beta is Shelf, which you access by swiping from the side of the home screen. You can turn it off if you prefer, but Shelf isn't offensive, serving up quick access to your most frequently used apps and contacts, plus weather information.

One last thing to add about the software is that the OP2's bootloader is unlocked, which will ease your ability to flash new software at some point down the line.

Verdict

The lack of NFC, a microSD card slot, a removable battery, and quick- and wireless charging means the OnePlus 2 is not a flagship killer. It does have some killer new features though, including USB Type-C, 4G dual-SIM support and some powerful hardware. At £289, it's an unrivalled deal.

Specifications

- OxygenOS 2.0 based on Android 5.1 with Android M features
- 64-bit Qualcomm Snapdragon 810 processor with 1.8GHz Octa-core CPUs
- GPU: Adreno 430
- 3/4GB LP-DDR4
- 16/64GB, available capacity varies
- Fingerprint, Accelerometer, Gyroscope, Proximity and Ambient Light sensors
- Embedded rechargeable 3,300mAh battery
- Dual-SIM connectivity
- 4G/LTE support
- Dual-band Wi-Fi
- Bluetooth 4.1
- Internal GPS antenna + Glonass
- Digital Compass
- USB Type-C
- 5.5in IPS Full HD (1920x1080, 401ppi) display
- Rear camera: 13Mp, 1.3µm, 6 lenses, OIS, Laser Focus, Dual-LED flash, f/2.0
- Front camera: 5Mp, Distortion free
- Video: 4K resolution video, Slow Motion: 720p video at 120fps
- 151.8x74.9x9.85mm
- 175g



Out now: Sony Xperia Z5 vs Xperia Z5 Premium

What's the difference between Sony's Xperia Z5 phones?

Sony announced three new Xperia Z5 smartphones at IFA 2015, so how do you know which is for you? We walk you through the differences between the Xperia Z5, Z5 Premium and Z5 Compact to help you choose which Sony Xperia Z5 phone is the one for you.

Price and UK availability

None of Sony's Xperia Z5 Android phone are available to buy right now. The Z5 and Z5 Compact

will go on sale in the UK in October, and the Z5 Premium in November. Final pricing has not yet been announced, but it's likely that you'll pay around £450, £550 and £650 for Sony's small, medium and large Z5s respectively.

Build and design

The Sony Xperia Z5 line-up has a familiar design that runs through the range, but with some necessary differences in size and weight, as well as some different colours and finishes.

The Sony Xperia Z5 Compact is obviously the smallest in the Z5 line-up. It measures 65x127x8.9mm, weighs 138g and comes in white, graphite black, yellow and coral. In common with the standard Sony Xperia Z5 it has a frosted glass rear cover, and on all three Sony's the iconic circular power button is now flat and rectangular.

The standard Sony Xperia Z5 is also available in white and graphite black, but swaps the Compact's yellow and coral for gold and green. It's a little wider and taller, but thinner, at 72x146x7.3mm. The Sony Xperia Z5 weighs 154g.

The biggest model in the Xperia Z5 line-up is the Z5 Premium, which comes with a chrome,



Sony Xperia Z5 Compact



Sony Xperia Z5

gold or black mirrored finish. It's both larger and chunkier than the standard Z5, matching the Compact on width. The Z5 Premium measures 76x154x8.9mm and weighs 180g.

All three Sony's are waterproof (IP68) and at last feature a fingerprint scanner, plus a microSD slot that can accept up to 200GB. Their batteries are not removable, but capacity increases as you move up the range: the Compact has 2700mAh, the standard Z5 2900mAh and the Premium 3430mAh. Don't expect to see a massive difference in battery life, however, given the differences in the screen and hardware, which we'll come on to next.



Sony Xperia Z5 Premium

Display

The display is a key difference between the three Sony Xperia Z5s. All three house Triluminos IPS displays, which are known for their excellent viewing angles and realistic colours, plus X-Reality tech and dynamic contrast enhancement, but they differ both in size and resolution.

The Sony Xperia Z5 has the smallest, lowest-resolution screen, 4.76in with an HD resolution of 720x1280. The middle model has a 5.2in full-HD screen, with 1080x1920 pixels.

Largest in the range is the Z5 Premium, with a 5.5in super-high-resolution screen - Sony has not plumped for Quad HD like many of its rivals but Ultra HD. The Premium's 2160x3840 pixels translate to a whopping pixel density of 806ppi, making this the first smartphone to feature a 4K screen.

Core hardware

Save for the amount of RAM, with 2- rather than 3GB in the Compact model, all three Sony Xperia Z5s feature the same core hardware. That means a Qualcomm Snapdragon 810 processor, Adreno 430 graphics and up to 32GB of internal storage, which can be bolstered some 200GB via microSD.

We can't comment on performance until we've had a chance to properly test each smartphone in our lab. There is unlikely to be a great difference between the phones, but with a less demanding screen to power we wouldn't be surprised to find the best performance coming from the standard Xperia Z5. It will be interesting to see what difference is made by the Compact featuring just 2GB of RAM also.



Connectivity and extras

The Sony Xperia Z5, Z5 Compact and Z5 Premium are all single-SIM (Nano-SIM) 4G phones, although a Sony Xperia Z5 Dual (dual-SIM) is coming soon.

You'll also find aGPS, Bluetooth 4.1, DLNA, Wi-Fi plus MIMO, MHL 3.0 and NFC, and the aforementioned fingerprint scanner. Sony's three Xperia Z5s each support PS4 Remote Play, and they feature S-Force front-facing stereo speakers with support for high-res audio.

Cameras

No matter which Sony Xperia Z5 you choose, it will have the same 1/2.3in 23Mp Sony Exmor RS rear- and 5Mp 25mm wide-angle lens front camera setup. This is upgraded over the 21Mp camera previously



found in the Sony Xperia Z-series. The primary camera can focus in 0.03 seconds, according to Sony, and features 5x optical and 8x digital zoom, a Pulse LED flash, a 24mm wide-angle G Lens, SteadyShot stabilisation, and can operate up to ISO 12800 (3200 for video). This camera is capable of 4K video recording, too.

Software

Also the same across the range is the software preinstalled on the new Sony Xperia Z5s. All run Google Android 5.1 Lollipop and will feature the same Sony tweaks.

Verdict

The desire for a smaller phone shouldn't mean you have to compromise on its hardware or specification, and that's something Sony has absolutely nailed with its Xperia Z line-up. Whether you want a small-, medium- or large phone you'll get almost the same deal. With what we expect

will be very little difference in performance, your buying choice very much comes down to what size phone you need and how much you have to spend – with the Z3 and Z3 Compact we found with its similar specification but significantly lower price the Compact actually offered the best value.

If you want the absolute latest in tech, then you'll be attracted to Sony's Xperia Z5 Premium and its 4K screen, but unless that's very important to you or you want a larger screen, we don't think you'll notice the difference enough to make it warrant the extra cost.

Specifications

- Android 5.1 Lollipop
- 5.2in Triluminos Display IPS (1080x1920, 424ppi)
- 2.2GHz Quad-Core Qualcomm Snapdragon 810 CPU
- Adreno 430 GPU
- 3GB RAM
- 32GB internal storage
- microSD slot (up to 200GB)
- 23Mp rear camera AF with LED Flash
- 5Mp front camera
- Video recording at up to 2160p
- Wi-Fi up to 11.ac
- Bluetooth
- NFC
- 4G LTE Cat 6
- Nano-SIM
- 2900mAh battery
- Dust and waterproof (IP68)
- 72x146x7.3mm
- 154g



Out now: Samsung Galaxy Note 5

Sleek and gorgeous phablet never destined for the UK

The Samsung Note series has always stood out of the crowd, mainly thanks to its larger-than-life display and the inclusion of a stylus, or S Pen as it's called. When the Note was first announced, people were shocked at the size of the 5.3in display – after all, the average screen size in 2011 was only 2.6in, but over time people have come to adore its style and what the phablet can offer. Fast forward to August 2015 where Samsung officially unveiled the much-rumoured Note 5, boasting a new premium design and improved S Pen. Fans of the Note series were excited to

get their hands on the device – that was until the company announced that the Samsung Galaxy Note 5 wouldn't be coming to UK shores.

This means that if you want to go hands-on with a Galaxy Note 5, you may have to import one. With this being said, our review handset was sent to us by Mobile Fun and while the company won't be stocking the Note 5 itself, it offers a range of Galaxy Note 5 accessories for those of you lucky enough to get your hands on one.

So, are we missing out by not getting the Galaxy Note 5 in the UK? Or have users dodged a bullet by not being able to purchase the phablet? Read our review and find out.

Design and build

The Samsung Galaxy Note 5 is the latest in the Note family, and is gorgeous. Samsung is finally moving away from plastic smartphones and moving towards premium aluminium and glass combinations that won't disappoint. The sleek and lightweight design of the Note 5 is beautiful, and we think it's one of the best-looking smartphones on the market right now.

It's available in a variety of colours, including Black Sapphire, Gold Platinum, Silver Titan or White Pearl. We've gone hands on with the Black Sapphire model, a navy and silver colour combination that catches the light in just the right way, showcasing its subtle, understated colour for maximum effect. The famed S Pen has also had an aesthetic upgrade, now sporting a matching aluminium finish for a more premium look.

The Note 5 measures in at 153.2x76.1x7.6mm and weighs a lightweight 171g. Let's compare this

to Apple's iPhone 6 Plus, which measures in at a slightly larger-but-thinner 158.1 x 77.8 x 7.1 mm. Not much difference between the two, right? Then you'll be shocked to know that while the iPhone 6 Plus boasts a 5.5in display, the Note 5 houses a slightly larger 5.7in display. This means that while both phones are very similar in terms of dimensions, the Note 5 boasts 0.2in more screen real estate for your money – and it's a beautiful display at that, too, but we'll come to that later.

The Galaxy Note 5 is made from Series 7000 aluminium – sound familiar to anyone? It should, as it's the same aluminium that Apple use in the Apple Watch, and is what the iPhone 6s is expected to be made of too. What's so great about Series 7000 aluminium? While being sixty percent more durable than standard aluminium, it's also lightweight, making it the perfect material to use in a smartphone. Paired with the Series 7000 aluminium is Gorilla Glass 4, Corning's latest creation that aims to protect both the front and the back of the Note 5.

The slightly curved edges and back plate make holding the Note 5 a lot easier, especially with one hand and for long periods of time – an important factor to consider when discussing phablets. You're able to easily reach the other side of the screen with a finger without risking a drop due to the extra grip that the curved design provides.

Display and S Pen

Let's move on to the features that make the Galaxy Note 5 what it is – the display and accompanying S Pen. The S Pen is one a feature of the Note series that fans love, which has improved in both



functionality and design since the release of the original Samsung Galaxy Note. The Note 5 brings along a completely redesigned S Pen, boasting a sleek aluminium body that looks gorgeous compared to the S Pens used in previous Note devices. It includes a push-button end, which allows for easy access when inside the Note 5 – simply press down on the Pen and it'll pop out, ready to be used.

The S Pen boasts improved and more accurate pressure sensitivity compared to the S Pen bundled with the Note 4, which itself was in line with top-of-the-range Wacom styluses at the time. After using the S Pen for only a few minutes, it becomes apparent that the Note 5 and S Pen do a great job of interpreting angles and swoops, and although a smooth display means you may slip when writing, it's impressively accurate and enjoyable. We're not huge fans of using styluses with smartphones, but

we found ourselves using the S Pen for a variety of tasks on the Note 5.

Using the S Pen gives you access to AirCommand on the Note 5, which fans of the Note series will know and love. It offers shortcuts to specific S Pen-related activities including Screen write, Smart Select, Action memo and S Note. It's ideal for those that are on-the-go, creative or just forgetful! While the apps themselves haven't changed much in terms of functionality, AirCommand has had an Android Lollipop face lift and now includes the option to add custom AirCommand shortcuts, such as "Open Instagram".

The only issue we had with the Note 5 and the S Pen is that on occasion, the Note 5 would think the S Pen had been detached and would display a message (and play a tone). The only issue was that in the majority of these cases, the Note 5 was on a table, stationary with no one removing the



S Pen. We also found that it happened when the Note 5 was in our pocket, so much so that we had to manually disable the notification. This may be an isolated issue with our handset, but it's worth taking into consideration.

But what about the display that provides you with such an exciting S Pen experience? The Samsung Galaxy Note 5 boasts a stunning 5.7in Quad HD super AMOLED screen, with a pixel density of a staggering 518ppi.

Note fans may point out that this is extremely similar to the offering of the Note 4, and they'd be right – the displays are ultimately the same, but with a great display and no real need for a 4K smartphone display, Samsung decided not to upgrade. We think this was right decision to make, especially as we imagine a 4K display would have a serious effect on battery life for a bump in quality that may not be visible to most people. If it's not broken, don't fix it eh?

We've fallen in love with the display of the Note 5. The high-resolution display is bright, vibrant and offers fantastic viewing angles. The colour representation was a bit out in places, but after watching various movie trailers and playing games on the Note 5, it was clear that this comes close to being our favourite phone display ever.

Specs and performance

It's all well and good having a beautiful looking smartphone, but how does the Samsung Galaxy Note 5 perform? The first impressive feature of the Note 5's internals is the inclusion of a whopping 4GB of RAM, similar to the OnePlus Two. Many

believe that 4GB of RAM is simply too much for a smartphone, but they clearly haven't used the Note 5 – thanks to the huge amounts of RAM, the Note 5 can run two apps side by side and interact with both independently with no sign of lag.

Alongside 4GB of RAM is Samsung's own Exynos 7420 octa-core processor, which comprises of a quad-core 1.5GHz Cortex-A53 and a quad-core 2.1GHz Cortex-A57. In terms of graphics, the Note 5 boasts a Mali-T760MP8 GPU, the same GPU that's used in other high-end smartphones including the ever-popular Samsung Galaxy S6. But of course, that doesn't mean a lot, so we ran a series of tests with the following results that should make things a bit clearer.

The Note 5 performs pretty well against its main competitors, narrowly missing out on the top slot in our Geekbench 3 benchmark (Note 5's 1497 compared to S6 Edge's 1501). It also performs moderately well in our graphics tests, and came out on top in our SunSpider test, which measures the internet browser performance of the device. These results place the Galaxy Note 5 up there with other premium, flagship devices and as a result should be able to handle almost anything you throw at it.

In terms of storage, you get a choice of either 32GB or 64GB, with no larger storage options available. This would usually be fine – Android users always upgrade the internal memory of their handsets, thanks to the microSD card slot that many handsets offer. However, Samsung made the hugely unpopular decision to remove the removable storage option from the Note 5, as it did with the Galaxy S6.

Connectivity wise, you'll find fairly standard 802.11ac dual band Wi-Fi, Bluetooth 4.2, GPS and NFC featured in the Note 5. With regards to sensors, the device has an accelerometer, a gyro, proximity sensor, compass, barometer, as well as a heart rate monitor and an SpO2 monitor.

It, like the Galaxy S6, also has a fingerprint reader, though in our experience we found this to yield higher error rates compared to our experience of Apple's TouchID and the fingerprint sensor used in the OnePlus Two. It'll do the job, but it becomes frustrating at times – especially as your only backup for a fingerprint lock is an eight-character minimum password, not a pin or pattern as we'd prefer.

Camera

Another great aspect of the Galaxy Note 5 are its cameras; a 16Mp sensor on the back and a 5Mp sensor on the front. As with the display, long-time



users of Note devices may notice that the rear-facing camera is pretty much the same as that of the Note 4. The camera boasts optical image stabilisation, autofocus, f1.9, an LED flash and 4K video recording at 30fps as well as a variety of different shooting modes. The Note 5 also displays HDR in real time, which provides an instant preview of the effect that helps to take better shots in contrasting light, among other things.

But does all that on-board tech translate to a great smartphone camera? Of course it does. Photos taken on the Galaxy Note 5 look vibrant, crisp and clear with very little to no blurring, even with (limited) movement in the shot. If that wasn't enough, the photos are captured surprisingly fast. We don't have an exact measurement for how long it takes for the camera to capture the image after you tap the capture button, but let us reassure you that it's faster than many smartphones on the market – and that's without the laser autofocus of the OnePlus Two.

With a great rear-facing camera, how does the front-facing camera look? Users will be happy to know that the 'selfie cam' been improved since the Galaxy Note 4, now boasting a 5Mp sensor, up from a 3.7Mp sensor. As well as this, it houses a 120-degree wide angle lens that'll allow you to fit more into your photos, ideal for selfies with friends or in a cinematic environment. It doesn't offer the same optical image stabilisation as the rear-facing camera, but it does offer digital image stabilisation with auto real-time HDR and f1.9 so as far as front facing cameras go, it's pretty good.

The great thing about the camera software of the Samsung Galaxy Note 5 (among other

Galaxy handsets) is that you can add additional shooting modes to the ones included by default. As standard, you'll have access to various shooting modes including Collage, Series, Slo-mo, Fast-mo, Panorama, Virtual Object and, my favourite, YouTube Broadcast. Using YouTube Broadcast, you can instantly set up and start a live stream directly from your phone using no additional software, just your default camera app. It's a pretty cool feature to have, that could one day change the way we interact with the news and social media.

Software

The Samsung Galaxy Note 5 comes with Android 5.1.1 Lollipop pre-installed and unlike in previous generations, the company has seriously cut back on the amount of bloatware included – probably to do with the fact that the company has removed the microSD card slot of many of its flagship devices.



It still features Samsung's TouchWiz interface, but uses the same version as the Galaxy S6, which provides various visual improvements over the Note 4 interface.

The Note 5 also comes with the fairly standard S Health apps that help you track general health and fitness, and also the mobile Microsoft Office suite. As we've mentioned above, users also gain access to AirCommand when using the Note 5's S Pen, the popular perk available only to users of the productivity-orientated phablet.

Battery life

The Samsung Galaxy Note 5 boasts a 3000mAh battery which, to the dismay of many Android users, is non-removable. To make that decision. Samsung must be confident that the battery can last a full day with standard usage – but can it?

We ran a battery test during our review, which measures the time it takes for the device to run out of charge from full capacity when in use. We found that the Galaxy Note 5 can be used for 8 hours and 54 minutes before its battery dies, with an overall battery score of 5340. This should get the vast majority of users through the day without needing a top-up, but power users may struggle – however with the inclusion of fast charging technology, it's not as much of an issue. More info about that below.

The Galaxy Note 5 offers wireless charging capabilities, which the company claims can charge a Galaxy Note 5 from dead to full in 120 minutes. Unfortunately, we didn't have a wireless charger to hand to put this to the test, but if true, it's definitely a plus.



For those of you without wireless chargers, you'll be glad to know that the Note 5 also boasts fast charging technology. Fast charging is all the rage at the moment, and we can now see why. In our experience, we could charge the Galaxy Note 5 from around 10 percent to full battery in just over an hour, which proved to be useful in a number of situations – especially topping up the Note's battery before tube journeys home after work.

Verdict

We're very fond of just about every aspect of the Galaxy Note 5, from its curved and sleek design to its vibrant display and high-resolution camera. It can handle almost anything you can throw at it thanks to its CPU, GPU and 4GB of RAM and we experienced no lag during our testing. With this being said, we're both surprised and sad that the Galaxy Note 5 won't be heading to UK shores any time soon.

Specifications

- Android Lollipop 5.1.1
- 5.7in Quad HD super AMOLED display
- Fingerprint sensor
- 802.11ac dual band Wi-Fi
- Bluetooth 4.2
- NFC
- Series 7000 aluminium
- S Pen
- 4K video recording
- 16Mp rear camera
- Optical and Digital Image Stabilisation
- Exynos 7420
- Mali-T760MP8
- 4GB RAM
- 32/64GB storage
- Heart-rate monitor and an SpO2 monitor
- 3000mAh non-removable battery
- 153.2x76.1x7.6mm
- 171g





Out now: Motorola Moto X Play

Too many corners cut to compete with the OnePlus 2

Everyone expected an update to the 2014 Moto X, but Motorola launched two new phones: the Moto X Style and the Moto X Play for 2015. We're looking at the latter here, which sits between the Style and the new third-generation Moto G for price.

Price and UK availability

The Motorola Moto X Play is on sale now starts from £279. That sits it between the new Moto G, which

costs £159, and the Moto X Style priced at £359. It also means that it's close to the price of the new and impressive OnePlus 2 smartphone, which was also unveiled on the 28 July and is priced at £239 (16GB) or £289 for the 64GB model. It's going to be a big competitor to the Moto X Play and Moto X Style, as it too has high-end specs and features with a mid-range price tag.

It's worth noting that the Play is much cheaper than the 2014 Moto X, which came in at a rather high price of £420, and now sells for about £350.

Design and build

Motorola may not have focused as heavily on design with the Moto X Play as it did with the Moto X Style, but it's still a good-looking phone in our opinion, and we really like the new design of the area around the camera and Motorola logo.

The rear cover pops off like the Moto G's which means it's easy to personalise the phone with other covers. If you configure a Moto X Play on Motorola's website you can choose between 12 colours for the rear, a black or white front face, plus an accent colour which colours the camera surround on the rear and the front speaker grilles. It doesn't cost any extra and you'll have a phone that won't look identical to



everyone else's. Of course, you're more likely to find a discount from other retailers selling the black or white 'base' models.

It weighs a reasonable 169g and is 10.9mm thick at its thickest point, but it's curved to make it feel comfortable in the hand so it doesn't feel like a bulky phone at all, particularly thanks to its thin bezels surrounding the screen.

Unlike the cheaper Moto G, the Moto X Play is merely water repellent, rather than waterproof. This means it should cope with the odd splash (as most phones can), but it won't survive being dropped in the bath.

When you remove that cover there's nothing to see or do: the 3630mAh battery is captive.

On the top edge is a centrally mounted headphone jack, plus a removable all-in-one nano SIM and microSD tray. For the UK model, the second nano SIM slot is blanked off. We don't know why Motorola chose not to make it a dual-SIM model, but this gives the OnePlus 2 another advantage over the Motorola. The Micro-USB port is on the bottom edge.

Like the new Moto G, the Play does not have stereo speakers at the front. Only the bottom grille hides a loud speaker - but even that sounds pretty good for videos and games (not so much for music).

One disappointment is the plastic volume rocker and power button. These are all on the right-hand side but are made from plastic and lack a premium feel. The volume rocker rattles, too.

Display

The display is a brilliant 5.5in 1080p Full HD screen, which is the same specs as the iPhone 6 Plus. The

pixel density of 403ppi can't quite beat the higher 520ppi of the Moto X Style's 5.7in display, but it's great quality nonetheless and you'll enjoy using it to watch movies and play games.

Some will feel let down by the switch to IPS technology from AMOLED which the previous Moto X used. However, the Play's screen is very good. Colours are vivid (we measured 90 percent of sRGB), and it's also really bright at 678cd/m², which means it's easier to see what you're photographing when outside in the sun.

Adaptive brightness is off by default so you'll probably want to make that your first change in Settings. You can also switch from the default 'Vivid' to 'Realistic' colour – this seems to be an option



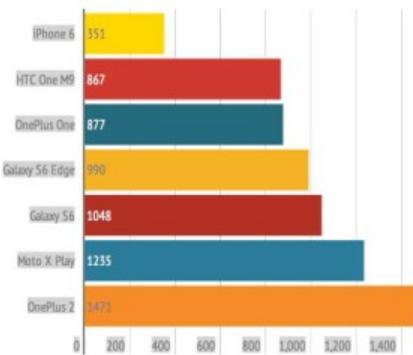
added to appeal to those who prefer the more vibrant hues of AMOLED displays. Whether you're in or out, playing games, watching videos or just sending an email, the screen is a pleasure to use. It doesn't offer the power saving features of AMOLED when you're using the Moto Display feature though (see software on page 56).

Specs and performance

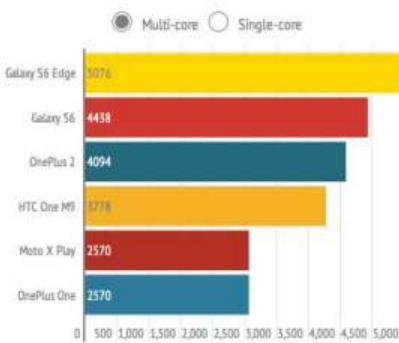
Inside the Moto X Play you'll find Bluetooth 4.0 LE connectivity, but there's no 802.11ac Wi-Fi like there is in the Moto X Style and even was in the 2014 Moto X. There is GPS and NFC, though.

A mid-range 1.7GHz Qualcomm Snapdragon 615 octa-core processor crunches the numbers, with Adreno 405 graphics and 2GB RAM. We found games such as Real Racing played fantastically smoothly on the Moto X Play, and it's no different when navigating around Android Lollipop. If you care about benchmark results, then here's the lowdown:

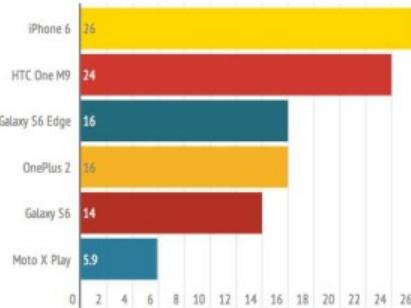
Moto X Play SunSpider performance



Geekbench 3



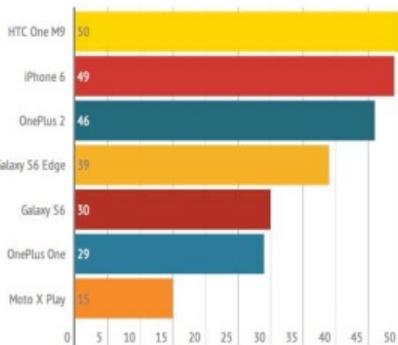
GFXBench 3.0 Manhattan



So, the numbers make it pretty clear that the Moto X Play isn't a powerhouse and a 'flagship killer' like the OnePlus 2, but in general use you'll struggle to notice a difference.

Storage isn't generous by today's standards: there are 16- or 32GB to choose between (32GB bumps up the price by £40) but you've the ability to add 128GB thanks to the microSD card slot, a welcome addition that wasn't present in the previous Moto X models.

GFXBench 3.0 T-Rex



The battery is a 3630mAh battery that should last for up to 30 hours according to Motorola, but we're still running our benchmarks to confirm what we suspect: that the Play doesn't last much more than a typical phone, and you'll end up charging it every night rather than every other as we'd hoped. Still, it depends on what you're doing. If you're watching offline video with a fairly low screen brightness, you should easily get through a long-haul flight - over 12 hours - before needing more power.

Note, too, that the Play lacks the Turbo Boost feature boasted by the Moto X Style, so takes longer to recharge.

Cameras

The Moto X Play does have one ace: a really great camera – the same camera in the Moto X Style, in fact. It's a big improvement over the 13Mp camera found in the previous model, at 21Mp with an aperture of f/2.0 and several handy modes including Burst Mode, Night mode, Auto HDR and Panorama.

On the front is the 5Mp camera like the one in the Style, which is another improvement over the 2Mp sensor on the front of last year's Moto X. You get the minimal Lollipop camera app which doesn't have a distracting interface – there isn't even a shutter button. You just tap on the screen to take a shot, or hold your finger for a burst of photos.

We don't like that there's no indication of focus, so you never know if the picture will be sharp or not. Fortunately, focus is very fast and also accurate. We took this photo of a flower (roughly 60mm in size) below on a windy day and were a little surprised to find it very sharp (we've resized the photo from 5344x4008 pixels to 1600x1200).



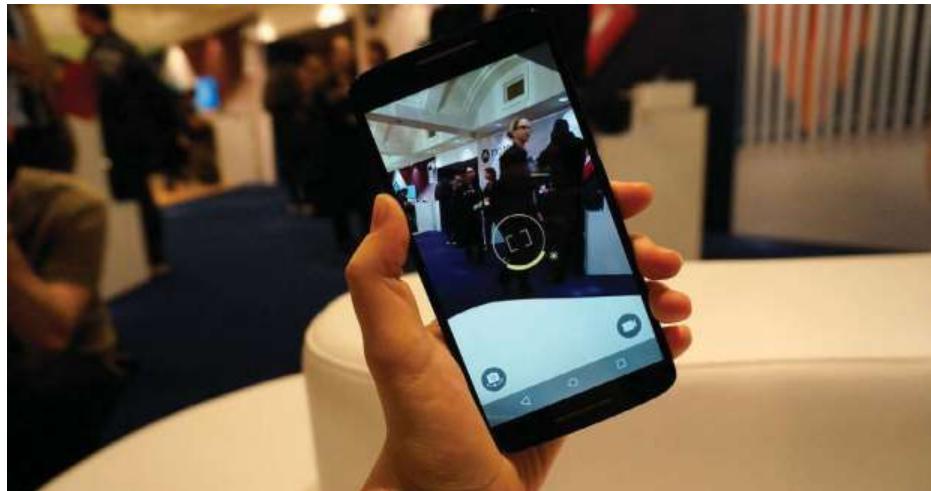


Above is a 100 percent crop of the image so you can see the full amount of detail captured.

You can toggle a focus/exposure control which lets you tap to set the focus and exposure point, and dial the exposure up and down. There's also night and panorama modes.

Frustratingly, the Play can only capture 1080p HD video, not the 4K video that's supported by the Style (and OnePlus 2). It can shoot slow motion video, but only at 540p – not even in HD! You should also know that the Play doesn't have optical stabilisation, while the OnePlus 2 does.

This makes video footage feel quite raw, but it's sharp and colours are great. Sound quality is reasonable – overall you shouldn't be disappointed, so long as you won't miss the option to record in 4K.



Software

The Moto X Play comes with Android 5.1.1 Lollipop installed, which is pretty much stock Android that Motorola has hardly touched. You will find Moto Assist, Moto Display and Moto Actions, but aside from that we're pleased to see that the company has gone for a vanilla user experience that's closer to what you'll find on Google's own Nexus devices.

Moto Display – for those unfamiliar – shows the time and notifications when you pick up the phone. On the old Moto X, this meant lighting up only a few pixels, but since IPS LCD displays use a backlight for the entire screen, Moto Display on the Moto X Play offers close to no power saving at all. It's merely a handy way to check time and if you have anything important to look at without pressing the sleep/wake button.

Moto Assist is the same as before. It can read out text messages when you're driving, and let you dictate a reply. You can set quiet hours when

notifications can't bother you, unless it's really important. This also includes checking your calendar to find out when you're in meetings, and switching to silent mode automatically. You can record a custom phrase which you can say to put the Play into a hands-free mode and speak your requests.

Verdict

Overall, the Moto X Play is a decent mid-range phone. But, it's not the great upgrade which Moto X owners were looking for. The camera is good, as is the screen, but performance could be better – as could battery life. Had Motorola offered the dual-SIM version in the UK and made the phone waterproof, it would have had enough to be a decent alternative to the OnePlus 2.

Specifications

- Android 5.1.1
- 5.5in Full HD (1920x1080, 403ppi)
- 1.7GHz Snapdragon 615 (octa-core)
- Adreno 405 graphics
- 2GB RAM
- 16GB/32GB storage, with up to 128GB via microSD
- 21Mp rear camera, 5Mp front
- Video capture: 1080p HD, 30fps (MPEG4, H.264)
- 3000mAh battery
- Nano-SIM
- Bluetooth 4.0
- 802.11a/g/b/n (dual band)
- NFC
- GPS
- 148x75x11mm
- 169g



Out now: Motorola Moto G

Budget phone gets decent upgrades but a price bump

The Moto G series of phones from Motorola has become a little confusing, with this being the third generation even though there are four different versions. Nevertheless, this is 2015's model and Motorola is under more pressure than ever to produce the best budget phone with fresh competition from the likes of the EE Harrier Mini and Vodafone Smart Ultra 6.

Design and build

Once again, the Motorola's budget handset looks pretty similar even to the original, but

understandably closer to the style of the 2014 model. This Moto G is a good-looking phone, especially for the budget end of the market. It is a little thicker and heavier, though, at 11.6mm and 157g.

It has a metal strip that houses the rear camera and the iconic dimpled logo. The front slots are flush, though unfortunately Motorola has removed the stereo speakers. The recessed slots also provide a place for dirt to collect.

There's a new texture to the rear cover and the shape looks similar to the Moto X, but the Moto G is, of course, made of plastic. Shell colours include Black, Navy, Cabernet, Golden Yellow, Lime, Cherry, Blue, Turquoise, Raspberry and Chalk. There are also Flip Shells.

This phone comes with an IPX7 rating for waterproofing, which proved to be spot on in our tests, so you won't have to worry if you knock over your drink or drop the Moto G down the toilet. The rating means the phone will survive being submerged in up to 1m of water for up to 30 minutes. It's a feature you won't find on other budget phones.

In our dunk test, we did find that some water seeped underneath the cover, but the rubber seals stopped this from getting where it should be – we recommend removing the cover and drying everything if you do submerge the phone.

A major new feature in this area is that the Moto G 2015 is available to order via the Moto Maker (tinyurl.com/qcool42). This means you can customise the phone with different front colours, rear covers, accent colours, engraving and storage capacities. The new Moto G feels nice in the hand and gives the impression of being more premium than previous

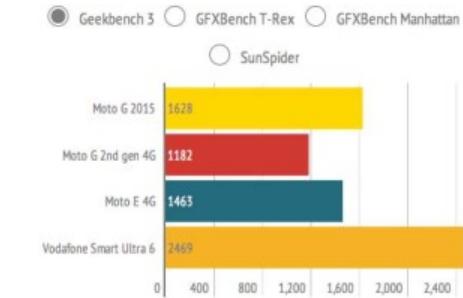
generations. It certainly feels like a mid-range device rather than a budget offering.

Hardware

The screen of the Moto G remains at 5in and although we had our fingers crossed, the resolution hasn't been bumped to Full HD (1920x1080). Instead, it remains at 720p, so the Vodafone Ultra 6 outclasses it here with Full HD at a lower price. Although the screen is 720p, it's still good quality and it provides decent brightness and colour reproduction.

As you might expect, the processor has also been upgraded. This time there's a Qualcomm Snapdragon 410 chip (1.4GHz quad-core), which is also found in the new Moto E 4G. That's a little disappointing on the face of it, but performance is nice and smooth regardless of this and the fact that our benchmark results don't make for impressive reading. It beats the previous model but is outdone by the cheaper Moto E in three tests – as does the Vodafone Smart Ultra 6.

Geekbench 3



Moto G 2015 benchmark results

○ Geekbench 3 ○ GFXBench T-Rex ○ GFXBench Manhattan

● SunSpider



Note: Lower SunSpider score is better

Moto G 2015 benchmark results

○ Geekbench 3 ● GFXBench T-Rex ○ GFXBench Manhattan

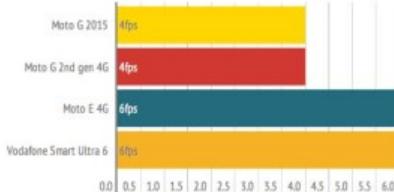
○ SunSpider



Moto G 2015 benchmark results

○ Geekbench 3 ○ GFXBench T-Rex ● GFXBench Manhattan

○ SunSpider



The amount of memory in this Moto G has been doubled to 2GB of RAM but you'll only get that if you buy the 16GB model – the 8GB model has 1GB of RAM. There's still a microSD card slot that can take cards up to 32GB in size.

You should note that the benchmark results shown on the previous pages are from the model with 2GB of RAM, so we can't comment on the performance of the lesser model. In the past, we've heard of users having issues with Moto G's with 1GB of RAM, so it's probably worth spending the extra on the 2GB model.

Camera

Upgrades continue with a new 13Mp camera, up from 8Mp, which is impressive for a budget smartphone. In fact, it's the same camera from the Google Nexus 6 (which Motorola makes), with improvements such as a new lens and an IR filter. There's a dual-LED flash too, and video can be shot at up to 1080p or 720p for slow motion.

The front camera has also been increased in terms of resolution, from 2- to 5Mp with a wide-angle lens making it able to offer much higher quality selfies. As usual, the default setting for the main camera is 16:9, which means you'll get 9.7Mp, so switching to 4:3 will make use of the full complement of pixels. Another default is no touch to focus, which is a little annoying, but you can switch it off if you find it a little tricky to use. We found the camera takes photos quickly and their quality of is generally excellent. Video is also good, but is nothing special.

There are no major frills when it comes to connectivity – there's still no NFC which is a shame



but the Moto G 2015 does have that all-important 4G LTE support.

The battery comes in at 2470mAh, though Motorola hasn't mentioned the TurboCharge feature found on the new Moto X, which is supposedly even faster than the Galaxy S6. The firm claims 24 hours of mixed use from the Moto G.

Even without a large battery (which is non-removable despite the rear cover coming off), we found battery life to be excellent. In our benchmark test, the Moto G managed six hours, 29 minutes with a score of 2596. That's not far off the Samsung Galaxy S6, which lasted for six hours, 53 minutes.

Software

There's not a great deal to say about software as Motorola is sticking to offering a very stock Android and the Moto G comes preloaded with version 5.1.1 Lollipop. We're seeing more and more Android

manufacturers going with a vanilla user experience and we like it. It's not a completely Nexus-like software setup though, as Motorola does add some of its own apps. That's not a bad thing though.

These include Moto Assist, Moto Display and Moto Actions, which are now bundled into one app simple named Moto. You can also make sure the phone stays quiet when you're in bed or automatically change settings based on your location. Actions let you add gestures, so you could, for example, 'double karate chop' to launch the torch or twist to open the camera app. The display will show you notifications when the phone detects movement and you can select which apps are allowed and how much of the notification is shown.

Apart from Migrate, which helps you move content from a previous phone, the Moto G is a stock Android meaning you have a nice blank canvas with which to customise.

Verdict

With various upgrades, including a waterproof design, great cameras and stock Android, the new Moto G 2015 is a great phone. It's worth opting for the model with 16GB of storage and 2GB of RAM and when you customise the device with Moto Maker, the price is a not so attractive £209. The Vodafone Smart Ultra 6 is worth a look at just £125 with its Full HD display.

Specifications

- 5in, 720p HD (1280x720, 294ppi) Corning Gorilla Glass 3
- Android Lollipop 5.1.1

- Qualcomm Snapdragon 410 (MSM8916) processor with 1.4GHz quad-core CPU
- Adreno 306 with 400MHz GPU
- 1GB, 2GB (Available on 16GB model only);
- 8- or 16GB, removable storage supports up to 32GB microSD card;
- 2470mAh battery, mixed usage up to 24 hours
- IPX7;
- GSM/GPRS/EDGE, UMTS/HSPA+, 4G LTE
- 13Mp rear camera, 5Mp front
- Bluetooth 4.0
- Wi-Fi 802.11 b/g/n
- GPS, AGPS, Glonass, BeiDou; accelerometer, ambient light sensor, proximity, sensor hub
- 142.1x72.4x6.1-11.6mm
- 155g





Coming soon: Huawei Mate S

Hands-on with this Force Touch smartphone

At IFA 2015 in Berlin, Huawei announced its latest smartphone: the Huawei Mate S. The announcement was an interesting affair, with an on-stage singing performance and a catwalk at the end, but even with all that, the Mate S was still the star of the show. It looks gorgeous, and offers some pretty interesting features. We went hands on with the Huawei Mate S after its announcement.

Release date and price

The Huawei Mate S will be available to preorder via VMALL, the official Huawei and Honor stockist in

the UK, from the 15 September, though the company hasn't revealed its shipping date. It'll set European customers back €649 for the 32GB models (titanium grey and mystic champagne), and €699 for the 64GB models (prestige gold and coral pink).

As with the release date, Huawei is yet to announce UK specific pricing, though we imagine it'll be announced in the coming days and we'll be updating the article once it has, so don't forget to check back periodically.

Design and build

Huawei has concentrated heavily on the design of the Mate S. During the announcement, the company kept referring to its design mission – to keep the Mate S's design pure and simple. This is reflected in the Mate S, with its gorgeous metal unibody (that's been dual diamond cut for precision) and simple yet understated look. The Mate S has been designed to have a slight curve at the back, which makes using the handset over long periods of time a more comfortable process.

Dimensions wise, the Huawei Mate S measures an amazing 2.65mm at its thinnest point, widening to 7.2mm at the thickest point of the device. It measures in at 149.9x75.3mm, which is surprisingly similar to the dimensions of the iPhone 6 Plus (158.1x77.8x7.1mm). Why is this surprising? Because the S Mate boasts the same size display as the iPhone 6 Plus (5.5in), but is smaller, and in our opinion, a lot more comfortable to hold and use.

Huawei wanted to minimise the presence of antenna lines with the Mate S, an issue that all unibody phone manufacturers (including Apple) have

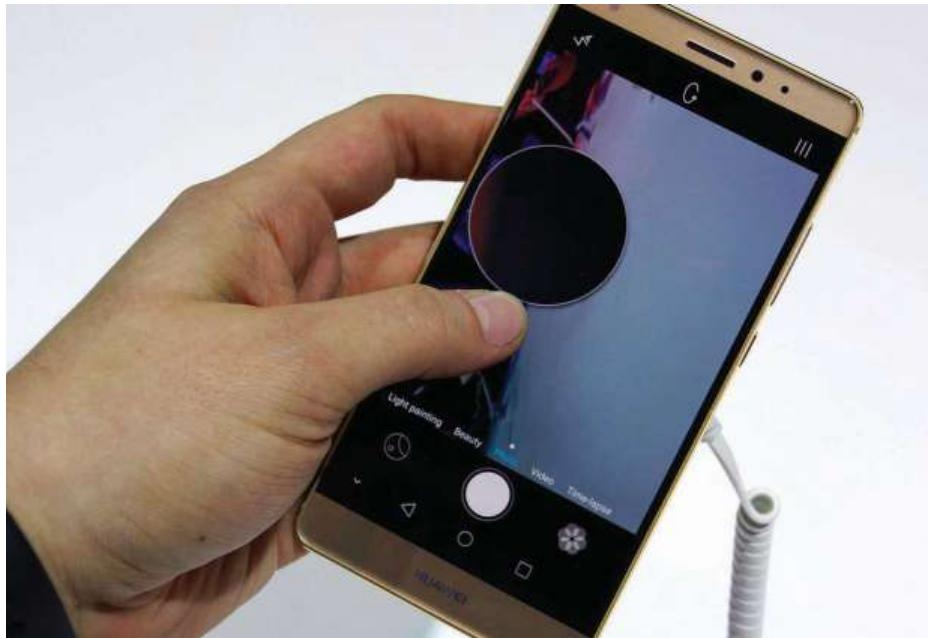
to deal with. The antenna lines are the plastic strips that run across the back of many phones including the iPhone 6, HTC One M9 and Huawei's own P8. While it's not currently possible to completely remove these antenna strips as these allow signals to be sent and received by the phone, Huawei has tried its best to minimise their presence.

How? Huawei has designed the Mate S in such a way that it doesn't require as many antenna strips as other leading smartphones, and the company has managed to make them thinner too, 1.5mm compared to the iPhone 6's 2mm strips.

We went hands-on with the Huawei Mate S straight after its announcement, and it is a beautiful handset. Its smaller dimensions mean that it fits comfortably in your hand, arguably more comfortable than Apple's iPhone 6 Plus, which is our go-to smartphone. It only weighs 156g too, compared to the iPhone 6 Plus' 172g, which may not sound like much of a difference but when you hold them both in your hands, you can quickly see how much of an impact 16g can have on a smartphone. The curved back allows for extra grip when using the Mate S one handed, while also allowing you to be able to comfortably reach the screen using one hand.

Display

The Huawei Mate S sports a full 1080p HD 5.5in display that looks crisp, clear and bright thanks to the 105 percent colour saturation and a high contrast ratio, and has a pixel density of around 401ppi. For those of you that are constantly breaking your phone screens, you'll be happy to know that Corning's 2.5D Gorilla Glass 4 protects



the Mate S display, which Corning claims is 2x tougher than competing glass technologies when dropped. The 2.5D glass allows the edges of the display to be curved instead of straight, which allows for a smoother overall finish and feels great when swiping near the edge of the display.

However it's not just the addition of Gorilla Glass 4 and a FHD display that make the Huawei Mate S fascinating – it also features force touch technology, much like what's used on the Apple Watch and rumoured to be included in Apple's iPhone 6s. It's worth mentioning at this point that force touch won't be available on the standard version available this month, and will be announced later on this year.

The force touch capabilities seem fairly limited at this time, with Huawei looking for suggestions

on how best to implement the technology in future. At present, you can force touch on a photo to get multi-level photo magnification and, amazingly, the technology can also be used to weigh objects by placing them on the screen. The example given to us at the event was weighing an orange, though we weren't able to put this to the test during our hands-on to see just how accurate it is.

Features

So, what else makes the Huawei Mate S interesting and unique? Huawei has decided to place a fingerprint sensor on the back of the device, which the company claims is a lot more convenient than having it on the front of the smartphone. Tapping the sensor will trigger the shutter when taking a selfie, swiping down on the sensor will allow access to the notification center and swiping from left to right (and vice versa) in the Gallery app will swipe between your various photos and videos.

While we weren't too sure about this at first, after going hands-on with the Mate S, we changed our minds. The company has upgraded the fingerprint sensor from what's featured in previous handsets, boasting 100 percent increased recognition speed and 100 percent increased sensitivity, with issues like wet fingers now becoming non-issues. This was confirmed at our hands-on, with the Mate S unlocking almost instantly after we placed our finger on the sensor. Much to our surprise, we didn't experience the fingerprint reading errors that we've got used to when using other smartphones, though we can't comment too much as our initial hands-on was fairly limited.

The Huawei Mate S also boasts dual-SIM technology, with support for 13 mainstream 4G LTE frequencies that cover Europe, USA and Asia. If you don't want to use two SIMs at once, the second SIM card slot doubles up as a microSD card slot, allowing users to bump up the storage capacity of the device.

Internally, the Huawei Mate S boasts a Hisilicon Kirin 935 octa-core processor, which is comprised of a quad-core 2.2GHz processor and a quad-core 1.5GHz processor, coupled with 3GB of RAM. Alongside the Kirin 935 sits the Mali T628 MP4 GPU, which won't hold its own against the Adreno 330 GPU but will handle standard mobile games and applications just fine. Once we get the Huawei Mate S back to the office, we'll run it through our benchmarks to see exactly how powerful it is.

It also has a 2700mAh Lithium Polymer step platform battery that Huawei claims can last over



one day on a single charge, though we haven't been able to put this to the test just yet. The company claim that fast charging capabilities of the Mate S is 2x faster than the iPhone 6 Plus, and that 10 minutes of fast charging will equate to around two hours of talk time.

Hidden away are three microphones, which are used alongside Huawei's smart directional algorithm for directional audio recording, with the aim of cutting out any unwanted background noise. You can set it to automatically detect whom to focus on, or you can move the in-app ring to record in a specific direction. It also has a one to one mode that eliminates side noise and produces 'direct listening' for situations like interviews.

Camera

So, what does the Huawei Mate S offer in the camera department? On the rear of the smartphone, you'll find a 13Mp camera with a four-colour RGBW sensor, which is more than its competitors according to Huawei, and helps to capture a more vibrant picture and colourful image. As well as a four-colour sensor, the Mate S has 1.2-degree optical image stabilization, which should combat (to a certain degree) the shakiness in the videos and images taken on the smartphone.

It also features a colour temperature LED flash, which aims to combat the tinge left by the flash that some smartphone users suffer from.

The company claims that the rear-facing camera also boasts a Digital SLR level sensor, which can be fully optimised by using the 'Pro' camera mode available from within the stock camera app. And



for those of you that are conscious of resting their phone flat in case the lens scratches, you'll be happy to know that the rear-facing camera of the Mate S is protected by sapphire glass, which is twice as durable as standard glass and almost as hard as diamond, much like what's used in the Apple Watch.

With regards to the front-facing camera, the Huawei Mate S features a pretty impressive 8Mp camera – but that isn't all. It seems that Huawei has listened to the cries of selfie-lovers and has opted to include a soft lighting flash, which provides a decent level of light without over exposure when taking photos in dark environments. It also uses the latest beauty algorithms (which you have to tweak when you first use it) to improve your selfies in real time with smoother skin, brighter eyes and a thinner face.

With regards to video, both the front and back cameras support 1080p recording, although we can't



confirm the frame rate at this moment in time. We've reached out to Huawei for confirmation, and will update the article as soon as we hear back.

During our hands-on, we were quite impressed by both the forward-facing and rear-facing cameras, both in terms of quality and capture time. We felt like as soon as we hit the shutter button, the photo was taken with no lag. The company has also included a number of filters, including an impact mode for high contrast black and white photography and a deeply tuned black and white filter for a more 'classic' look. While we're not usually fans of using filters, we were pretty keen on these.

Software

The Huawei Mate S comes packing a Huawei-customised version of Android 5.1.1 Lollipop, which

includes some interesting features not available on standard Android devices. The first is the notification centre, which is accessed by swiping down from the top of the screen – as well as being able to access various toggles, you can swipe right to access a timeline view of all your notifications over the last 24 hours. It's a nice touch, and a feature we'd love to see implemented into other Android devices.

It also comes with a Power usage firewall that'll highlight any power-intensive apps that are draining your battery. From the menu, you're able to quickly disable the background processes completely, or tweak exactly what the app can do in the background.

The Huawei Mate S also offers an interesting way to interact with your phone – by knocking on it. The smartphone includes knuckle touch control 2.0, which can be set up to wake up your phone whenever you tap on it with your knuckle, and you can also use your knuckle to crop photos (any shape, not just square like with knuckle touch control 1.0) and take screenshots anywhere in the operating system.

Interestingly, you can also use knuckle touch to crop videos – simply double tap to start the recording, and double tap to stop it. It'll create a new video file with your shorter video instead of directly overwriting the original.

You can also use your knuckle to draw gestures on-screen that act as shortcuts to various apps. For example, you can draw a C to open the camera or a B to open the internet browser, although these can be customised to open any app that you want. After our hands-on with the Mate S, we had mixed

feelings about its custom Android UI. Though it includes many features that aren't available with Stock Android, there are certain UI-related issues that take some getting used to. An example of this is using square icons when many Android Lollipop icons are circular, which results in a circular logo within a square icon. It's not necessarily enough to put us off the device, but it's not the best-looking user interface we've seen.

Verdict

Based on our first impressions of the Huawei Mate S, it's a very promising phone. Its design is beautiful, it's lightweight and it fits perfectly in our hands.

Specs

- 5.5in AMOLED display
- Front facing 8Mp camera with LED soft light
- Rear facing 13Mp camera with optical image stabilisation, four colour sensor and dual colour-temp LED flash
- Hisilicon Kirin 935
- MALI 628 MP4
- 3GB RAM
- 32/64GB memory
- Dual-sim with 4G connectivity
- microSD card slot if second SIM not in use
- 2700mAh non-removable battery
- Android 5.1.1 with EMUI3.1
- NFC
- Bluetooth
- Wi-Fi
- 149.9x75.3x7.2mm
- 156g



Out now: UMI Iron

Eyeverify security makes this phone ultra-secure

The UMI Iron is the Chinese manufacturer's latest Android phone. It has some high-end specifications but, most notably, eye-scanning security that aims to make this Android smartphone almost impossible for prying eyes to infiltrate.

The Eyeverify system scans the unique vein pattern and precise positioning of your pupils to make a match, and the optional setting that requires you to blink during verification tightens security by ensuring the Iron must be faced with a living, breathing human rather than a cleverly angled

photo. It sounds great, but the ability to bypass the eye verification with a four-digit passcode is a chink in its otherwise impenetrable armour.

Almost unbelievably, you can buy the Iron for just £149 from Amazon UK. And it's available for even less if you're willing to buy through a grey-market site such as Geekbuying, which charges £119.62. That's excellent value for a phone of this calibre.

The UMI Iron is a phablet with a 5.5in full-HD screen. With an all-metal build it looks good – something of a mash-up between an iPhone, an HTC and a Samsung Galaxy – and it feels reassuringly tough. There are some nice extra touches such as the customisable pulse notification light at the base of the screen, too.

Highlights in its specification include an octa-core, 64-bit MediaTek MTK6753 processor running at 1.3GHz, 3GB of RAM, 16GB of storage and the ability to either bolster this capacity with an additional 64GB, or add dual-SIM support with both cards capable of handling mobile data. Performance is



good, making this UMI phone a great all-rounder at an even better price.

There's an 8Mp selfie camera at the front of the Iron, plus what UMI claims is the world's leading 13Mp camera at the back – Sony's IMX214 is a six-lens, f/2.0 snapper that does an admirable job in all conditions. There's an LED flash front and rear, too.

In common with the Samsung Galaxy S6 the UMI Iron has a heart-rate scanner that also purports to measure stress, here found on the front of the device to the left of the camera. However, although our review sample was running the latest software, we weren't able to get this to work.

The Iron comes with Android Lollipop preinstalled, but UMI Rootjoy support makes it easy to plug in the Iron to a PC and load up MIUI or an OS of your choice. Stick with the out-of-the-box OS and you'll benefit from useful screen gestures and a slim OS with very little bloat.

Price and UK availability

The UMI Iron officially went on sale on 15 August. UMI has recently begun selling its phones through Amazon, which for some readers will be a more appealing route than buying from China through sites such as Geekbuying.

If you want to buy the UMI Iron from Amazon it will cost you £149.99, which is half its £299 RRP. You'll save a little extra cash when buying from Geekbuying, however, at £119.62. .

Our UMI Iron was supplied with black and white flip covers, plus a Magic Glass tempered glass screen protector. These optional extras are available from Geekbuying for £7.81 and £6.51 respectively.

Design and build

The UMI Iron is a good-looking phone. It's something of a cross between an HTC, Samsung Galaxy and iPhone 6 Plus, with a large 5.5in screen, all metal build and a rounded slab-like design with a gently curved rear. This phablet is rather large, thanks to the 5.5in screen, but not unwieldy, just 148g and 7.9mm thick.

It feels durable, CNC milled with metal buttons, metal screws... metal everything save for the screen. This panel is a full-HD (1920x1080) LTPS panel, which is good news for battery life. It's good news for consumers, too, and its 403ppi pixel density makes for clear text and images, free from any signs of fuzziness. Colours are vivid and the screen usefully bright.

We like the pulse notification light at the base of the screen, which helps to ensure you never miss a call or text. The colour of this pulse light is customisable, too.

The only hardware buttons on the UMI Iron are a volume rocker and power switch on its left edge; on the right is a dual-SIM tray that can either support two Nano-SIMs (both connected to Vodafone's 3G network in our tests) or one SIM and a microSD card up to 64GB. The rear cover isn't removable, which means neither is the 3350mAh battery inside.

A headphone jack is found on the UMI Iron's top edge, and on the rear a 13Mp camera protrudes slightly. This is protected with stainless steel, and paired with a dual-LED flash. At the front of the device you'll find an 8Mp webcam, also with an LED flash, which can not only take great selfies but is critical to the UMI's eye-scanning security.



We have two main gripes with the Iron's build, although both may be down to a fault with our early handset rather than anything to cause concern.

Despite checking we were running the latest software, we couldn't get the heart-rate scanner (located to the left of the selfie camera) to work. And the Micro-USB charging port at the bottom of the device is oddly square in shape, making it difficult to connect a cable. It actually got our hopes up for a minute that it could be USB Type-C but, sadly, no.

Performance

The UMI Iron might have a cheap price tag, but it has some flagship-level hardware inside. Combining a 1.3GHz MediaTek MTK6753 64-bit octa-core chip with 3GB of RAM and Mali T720 graphics, performance is good – if some way off the best we've seen. In real-world use there's little

sign of lag when launching apps and navigating menus, which is more important than benchmark performance, of course.

Nevertheless, we did run the UMI through our usual speed tests. First, we ran Geekbench 3.0, which measures processing speed. With a multi-core score of 2606 points, the UMI Iron falls a little below 2014 flagships such as the Samsung Galaxy S5 (2869), Sony Xperia Z3 (2805), Nexus 5 (2800) and HTC One M8 (2761). Its brother, the UMI eMax, managed a much faster score with 4101 points.

SunSpider web-browsing performance wasn't brilliant, although we have seen worse. Measuring 1552ms the UMI Iron is in line with the OnePlus 2 (1471ms), Moto G 2014 (1504ms), Vodafone Smart Ultra 6 (1545ms) and Sony Xperia M2 (1647ms).

We also ran the UMI Iron through AnTuTu, in which it recorded 32,873 points and fell roughly in line with its other brother the UMI Hammer (32,506), although it failed to run our GFXBench graphics tests.

The 3350mAh battery inside should be good for a full day's use, although we should point out that it doesn't build in support for wireless- or quick charging, nor are there any special battery-saving modes.

Connectivity and extras

The key selling point of the UMI Iron is its Eyeverify security. This is the first time we've seen it on a smartphone, and it's undeniably cool. But it's not any more secure than any other type of biometric security, such as a fingerprint scanner, given that you can bypass it and enter a four-digit PIN. So, it's as secure as that four-digit PIN.

For what it's worth, though, the eye scanner works very well – even if you're wearing contacts. It scans the unique vein pattern in your eyes and exact positioning of your pupils to make a match, and can even do so at night or in dim light by adjusting the screen brightness. Because it uses the camera rather than an infra-red or other scanner, doing so won't harm your eyes.

The UMI Iron recognised our eyes every time we tried to access it, and the same can't always be said for fingerprint scanners. It's marginally slower to unlock the phone than inputting a PIN, but we like the fact you can force it to require a blink before it'll accept your 'eye print' – preventing anyone being able to unlock the phone with a photo of your face.

We mentioned the heart-rate scanner in our introduction, which unfortunately failed to work on our review sample. For some users it'll prove a nice extra for helping them (or maybe just reminding



them) to keep an eye on their health, but we have one on our Samsung Galaxy S6 and have to admit to very rarely using it. Still, it's a nice extra – if you can get it to work.

Another extra is the Texas Instruments Directpath audio technology, which has an industry-leading signal-to-noise ratio of 127dB. A Maxx EQ app lets you fine-tune audio settings to your taste. The Iron's speaker is found on the device's rear, but the size of the phone stops it getting muffled by your palm.

The UMI Iron is a dual-SIM phone but, in common with the UMI Zero, you must choose between dual-SIM and microSD support. If you think the device's 16GB of storage won't be enough for your needs, then you'll appreciate being able to add up to 64GB via microSD.

In our tests both Nano-SIM slots on this dual-standby phone worked on Vodafone's 3G network (the UMI Iron is actually a 4G phone where you are in range).

If you are buying the UMI Iron for use in the UK you should ensure it is supported by your mobile network operator. Supported frequencies are as follows: 2G: GSM 900/1800/1900MHz; 3G: WCDMA 900/1900MHz/2100MHz; 4G: FDD-LTE 1800/2100/2600MHz.

The UMI Iron has support for HotKnot, which is MediaTek's answer to NFC. With Android Pay soon to launch we'd rather see NFC, but we get the impression that HotKnot is a bigger deal in China.

Other connectivity specs are relatively standard. There's GPS and A-GPS, support for Bluetooth 4.0 and 802.11b/g/n (neither are the latest standards), plus Wi-Fi Hotspot and OTG.

Cameras

UMI says the Iron features the world's leading 13Mp camera. It's a Sony IMX214 camera with six precision lenses, a blue glass filter, f/2.0 aperture and dual-LED flash. The full 13Mp is available only in 4:3, otherwise the UMI Iron tops out at 9.5Mp in 16:9 mode.

Some detail is lacking, but we were reasonably impressed with it when faced with the proposition of a dreary, overcast central London photoshoot. All the usual modes are available, including HDR, Panorama, Live Photo and Motion-Tracking. You can also get real-time previews of various filters.

We're more impressed by the front camera, though. With 8Mp to hand this f/2.2 front camera on paper should be better than the rear camera of many phones at the same price point. Except in our tests we couldn't see how to actually get anything more than 5Mp from it – and that was in 4:3 mode; in 16:9 we could achieve only 4Mp. You can toggle



on a beauty mode and ramp up settings for wrinkle removal and, as with most Chinese phones we review, face whitening. It also supports gesture shot and voice capture.

Software

The UMI Iron runs Android 5.1 Lollipop out of the box, but support for Rootjoy means you can plug it into a PC or laptop and relatively quickly and easily install a new OS, including the likes of Xiaomi's MIUI. Rootjoy can also be used for backup purposes.

The software will be familiar to existing Android users, with few additions to the standard Lollipop OS. UMI has added a handful of apps, plus support for double-tap to wake and the aforementioned Pulse notification light. You can also configure a Guest user account.

Verdict

The UMI Iron is a good buy at £149.99, and the first we've seen to include eye-scanning security. This is a cool feature, if no more secure than the requirement for a four-digit PIN. Although the heart-rate scanner didn't work in our tests and the Micro-USB charging port seemed oddly misshaped, the UMI Iron nevertheless offers a good set of hardware and more than acceptable performance for the money.

Specs

- Android 5.1 Lollipop
- 1.3GHz MediaTek MTK6753 64-bit octa-core processor
- 3GB RAM

- 16GB storage (plus microSD support up to 64GB)
- 5.5in full-HD (1920x1080, 403ppi) LTPS display
- Mali T720 GPU
- 13Mp rear- and 8Mp front cameras
- Dual-SIM dual-standby (both nano-SIM)
- 2G: GSM 900/1800/1900MHz, 3G: WCDMA 900/1900MHz/2100MHz, 4G: FDD-LTE 1800/2100MHz/2600MHz
- Bluetooth 4.0
- 802.11b/g/n
- Wi-Fi hotspot
- GPS
- A-GPS
- OTG
- 3350mAh battery
- Micro-USB charging port
- Headphone jack
- Texas Instruments Directpath audio
- 152.3x76.5x7.9mm
- 148g





Coming soon: Huawei Watch

Hands-on with gorgeous smartwatch

We knew Huawei was going to announce a wearable at MWC 2015 in Barcelona and while the TalkBand B2 is improved, it's the simply named Huawei Watch which has caused quite a stir. Such a stir, in fact, that six months later – with little or no information available in that time – people still care about it. At IFA 2015 Huawei finally announced pricing and availability for the Huawei Watch.

With the Apple Watch incoming soon, we've seen a lot of new smartwatches arriving with a more premium design and finish. We were expecting

them from the likes of LG but Huawei has shocked everyone with its gorgeous Huawei Watch.

The firm certainly could have, and probably should have, come up with a better name for the device but when it looks this good we don't really care. Perhaps the Chinese tech company wants to compete directly with Apple by simply branding it with the name and the type of device it is.

When we wrote this review we didn't know how much the Huawei Watch would cost or when it would launch, but our prediction of somewhere around the £300 mark to match the LG Watch Urbane was spot on – prices start at €399, which converts to a few pounds under £300. The Huawei Watch is available to buy in some territories and preorder in the US and will go on sale in the UK in October.

We got a good look at the silver model but the Huawei Watch will also be available in a nice looking black model and a shiny gold one for those after a more bling finish. There are also two straps to choose from, either leather or stainless steel. Interestingly, Huawei has places the physical button at 2 o'clock rather than 3 and this seems to make sense meaning you don't need to twist your wrist as much to push it (the wrist not wearing the device).

Like many smartwatches, the Huawei Watch is big so you've got to be prepared for this – just take a look at it next to the Withings Activité. It seems no one is following Apple's lead of producing two sizes for those with smaller wrist which is a shame.

The stainless steel case and sapphire crystal front look great, even if the device is a bit chunky at 11.3 mm. We're used to some Huawei devices being cheap and made from plastic but this couldn't

be further the other way. It's easily one of the most premium and desirable Android Wear wearables around, in fact smartwatches in general.

The Huawei Watch fits in with the standard set of hardware for Android Wear devices. This means it has a Qualcomm Snapdragon 400 processor, 4GB of internal storage, 512MB of RAM and Bluetooth 4.1. It also has various sensors like an accelerometer, barometer and heart rate monitor.

The screen, however, is a little larger than rivals such as the LG G Watch R at 1.4in but this is smaller than the Motorola Moto 360 so it's not the biggest around. Round screens are quickly becoming the norm for smartwatches with a few exceptions like the Sony SmartWatch 3. Huawei's is full round so doesn't have the 'flat tire' effect found on Motorola's.

It looks great although we weren't able to test the display out fully as it was in a demo mode. What we are a little worried about is battery life as the Huawei Watch only has a 300mAh battery which is pretty small. The firm claims it will last for one and half to two days on a single charge so we're looking forward to testing this out.

A good thing about the Huawei Watch is also compatible with the iPhone, making this a true potential Apple Watch killer.

Verdict

We're surprised and impressed by the Huawei Watch which is a great-looking smartwatch, although it is quite large. Specs match other Android Wear smartwatches but we're worried about the small battery. Design is key here and we think the firm has done a great job.



Coming soon: Samsung Gear S2

Samsung's circular watch adds some interesting features

During IFA 2015 in Berlin, a month after Samsung's Note 5 launch where the company teased us about a new smartwatch, the Samsung Gear S2 has been unveiled. The circular smartwatch is the first of its kind from Samsung, and is following in the steps of other circular smartwatches like the Moto 360 and, more recently, the Huawei Watch. During its announcement, Samsung promised exciting things regarding the Gear S2, but did the company deliver? We went hands on with the Samsung Gear S2 at its announcement to find out.

The Samsung Gear S2 comes in two editions, the standard Gear S2, and one for those of us that love the classic wrist watch look, the Gear S2 Classic. Both editions are crafted from stainless steel, though during our brief hands on time with the Gear S2 Classic, we thought that it felt a bit cheap – which isn't ideal for what we presume will be the more expensive of the two smartwatches.

The Gear S2 Classic comes in black, whereas the standard Gear S2 comes in both silver and a slightly darker grey. Samsung has followed the route of many smartwatch manufacturers before it and allows for the watch strap to be customised, as any standard 22mm watch strap will fit the Gear S2 Classic, however the standard Gear S2 looks like it'll only fit official Samsung straps.

On the wrist, the Gear S2 feels pretty lightweight and comfortable to wear. Though it measures in at 11.4mm compared to the 11.5mm of the first generation Moto 360 which people say is quite bulky, the Gear S2 doesn't feel like a bulky watch. In fact, after wearing it for a few minutes, we completely forgot we were wearing it at all and even though it sounds like a bad thing, it's a good thing.

The real beauty of the design of the Gear S2 comes not with the circular display itself, but with the bezel of the watch. Instead of directly interacting with the screen of the Gear S2, users have the option of using the rotating watch bezel to scroll through the various menus and apps of the smartwatch.

When you turn the bezel, you'll feel a gentle click which Samsung says will allow for muscle memory to eventually kick in and enable you to select apps

without needing to look at the screen. It's not a click generated by a vibration motor either, it's mechanical. This means that there's no battery life drain for those of you (and believe us, there will be a few) that just love the sensation of turning the bezel. It is pretty satisfying, we can't lie.

Of course, users have the freedom of freely tapping and swiping directly on the watch face, but this isn't how Samsung intends the device to be used. Although with this being said, we found using the bezel a little confusing when navigating the new circular UX, especially at first. However, early adopters of the Apple Watch had the same issue and we don't hear many complaints about it months down the line, do we?

Samsung included Android-style back and home buttons on the side of the smartwatch to make using



it an easier process, though we found it to be a bit of a fiddly process and we kept confusing the buttons as there are no real indications of which is which just by looking at it.

Both the Gear S2 and Gear S2 Classic are protected by Gorilla Glass 3, which is pretty standard for smartwatches. We think Samsung could've pushed the boat out and used Gorilla Glass 4 or Sapphire glass for a real statement of protection.

With that being said, Samsung did have one interesting feature tucked up its sleeve – 3G connectivity built into the Gear S2. This means that you no longer need to rely on your smartphone for a data connection, which should speed up the loading time of many apps. Sadly, this isn't a feature that's standard with the Gear S2, and you'll have to fork out a bit more money if you want 3G connectivity.

Alternatively, the standard Gear S2 boasts not only Bluetooth but NFC and Wi-Fi capabilities, with Wi-Fi connectivity allowing you to use the Gear S2 when not connected to your phone, but only at work, home, and so on.

Samsung has included a host of sensors to allow the Gear S2 to track your activity throughout the day and display it to you in a watch-style layout. Instead of just measuring calories (it still does, don't worry) it'll measure the amount of activity you've done throughout the day and present it to you in blocks – green areas were areas where you were quite active (and the watch will motivate you when it detects this), yellow areas where you've taken it easy, and grey areas for when you've not moved at all.

It's a good way to motivate yourself to get fit, but will users take heed of their results or just

dismiss them like with similar fitness apps on other smartwatches? Only time will tell (get it?).

Samsung are working hard with many businesses in various sectors (retail, social media, and so on) to make sure that the apps running on the Gear S2 are as great as they can possibly be. We imagine this is because more often than not watch companion apps are pretty disappointing in terms of what they can do without requiring you to use your phone. This was apparent in our hands on with the CNN app – with other smartwatches, you're able to see headlines of stories but not much else, but with the Samsung Gear S2 you can tap on an interesting article and read it in its entirety directly from the smartwatch.

Let's talk spec. The Samsung Gear S2 boasts a 380x380 resolution with an AMOLED display, which would've been very impressive if Huawei hadn't



announced that the Huawei Watch would have a 400x400 resolution a day earlier. Although with this being said, we're not aware of pricing for the Gear S2 just yet so Samsung could be looking at a lower price point than Huawei's smartwatch. It also boasts an Exynos 3250 processor with 512MB of RAM along with 4GB of on-board storage. It also has an IPX rating of IP68, which means its dust and water resistant to a certain extent and will definitely survive being caught in the rain.

In terms of battery life, the Gear S2 boasts a 250mAh battery (300mAh for the 3G variation) that Samsung claims will last around 2-3 days on a single charge with the use of Samsung's built in battery saving mode. We weren't given much of an indication of just how long this extends your battery life by, so we'll be sure to test that out when we get one sent to Android Advisor towers.



So, how much will the Gear S2 and Gear S2 Classic cost, and when can we get our hands on them? Samsung has confirmed that both smartwatches will be available in limited quantities from October, though the company hasn't yet announced pricing so it'll be interesting to see where the Gear S2 sits in the smartwatch market. However, October is only a month away so we won't have to wait too long (hopefully) to find out.

Verdict

Based on our first impressions of the Samsung Gear S2, it's a sleek smartwatch with an attractive design. It offers standard smartwatch features like fitness tracking, but also includes some rather interesting features including a rotating bezel used for navigating the UX and 3G connectivity. We're saving our final judgement until we get one back to Android Advisor towers for a full review, and as the pricing wasn't announced at the event, it may be overpriced. We'll have to wait and see.

Specs

- Wi-Fi, 3G, Bluetooth and NFC connectivity
- Circular watch face
- 1.2in 380x380 AMOLED display
- Heart-rate monitor
- Exynos 3250
- 512MB RAM
- 4GB storage
- 250mAh battery
- IP68 resistance rating
- Circular UX
- 42.3x49.8x11.4mm



Coming soon: **Motorola Moto 360 2**

Great improvements, but not the one we wanted

Motorola has promised that the new Moto 360 will be available to buy towards the end of the month, and it'll start at £229 when you build it on the Moto Maker, which we'll talk more about later. Of course, if you want the larger model or a more premium strap, you can expect that price tag to increase significantly.

For comparison, the Apple Watch starts at £299 for the small Sport model, and the LG Urbane costs £219. Last year's Moto 360 was priced at £199.99.

Design and build

We loved the original Moto 360 when it launched early last year as one of the first Android Wear smartwatches, not least because of its circular display that helps it look more like a traditional smartwatch rather than a lump of tech strapped to your wrist. But the biggest complaint we had about it (as did many, many others) is that there's a portion of that circular display dedicated to the sensors, which results in an irritating 'flat tyre' effect. That's why we're so disappointed to see that it's still there! If you want to use a circular design as your clock face, you'll find that the bottom of it is cut off in an ugly and truly frustrating fashion.

Motorola has put some time and thought into the rest of the design, though. There are now two sizes available. We're not keen on the way Motorola has labelled these sizes as men's and women's, but in the 'Men's' collection there's a black, silver or gold option, and in the 'Women's' collection there's metallic bronze, silver or gold.

When it comes to the size options, Motorola has included the 46mm and 42mm models in the Men's collection, but the Women's collection only features the smaller 42mm design.

The smartwatch has a stainless steel body, and has been slimmed down significantly helping it look sleek and in some cases quite elegant with the leather straps. The physical button on the side of the watch has been moved up slightly, too, to the 2 o'clock position. This helps it fall under the thumb more naturally.

As mentioned, the Moto 360 is available to customise through Moto Maker, meaning you

can choose exactly the strap, colour and size combination you like. This isn't new, but the previous Moto 360 had very limited options, whereas this year's model offers lots of choice. You can even choose to have a different colour bezel around the watch face, for example, and Motorola doesn't charge extra for that.

In terms of durability, the Gorilla Glass display combined with IP67 dust and water resistance should keep it safe in most conditions, but you won't want to take it with you if you plan on going swimming or taking a bath.

Hardware and specs

We've talked about how the Moto 360 looks, but what can it actually do? Each model comes with a Qualcomm Snapdragon 400 chip inside, with a 1.2GHz quad-core processor that should prove to



be much speedier than the old chip in the original model. This new chip brings the Moto 360 in line with premium smartwatches like LG's Watch Urbane and the Huawei Watch (see page 88).

That Snapdragon chip is paired with Adreno 350 graphics, and there's 512MB of RAM and 4GB of on-board storage should you want to download songs and listen to them while you're out and about without your smartphone.

Which brings us on to the next point, which is that the Moto 360 itself can connect to Wi-Fi, which means you can use lots of its internet-requiring features without your smartphone should you wish to, as long as you're able to connect to Wi-Fi.

We've talked a bit about the screen size, but taking a closer look at the resolution you'll find that the 42mm model is 360 x 325 pixels at a pixel density of 263ppi, while the bigger watch offers 360 x 330 pixels at 233 ppi. Both are clear and crisp.

Motorola claims that the new Moto 360 will last for two days on one charge (charging is wireless using a dedicated dock), but we'll have to wait until we get it back to our labs to test how accurate that figure is. Should it manage two days, though, we'll be suitably impressed – the Apple Watch generally needs charging every night.

Software

The new Moto 360 runs Google's Android Wear OS for smartwatches, which means its fully compatible with many different Android devices, and interestingly also with the iPhone now that Google has released an Android Wear app for iOS. iPhone users won't get the full range of features, though.

Moto Body is Motorola's fitness app, which uses the sensors in the Moto 360 to track steps, calories and heart-rate, and can also be used to track specific workout activities. Motorola has announced a new Sport model of the Moto 360, but that was only in prototype form at IFA and there's no word on when that'll be available to buy just yet.

In addition to the Moto Body app, Motorola has also added Live Dials for the Moto 360, which means you can see information such as weather forecasts and your step count at a glance right from the home screen. Tapping on those Live Dials will take you to the related app on the watch itself.

Verdict

Overall, we're equally really impressed and utterly disappointed with the Moto 360 2. There are so many great design improvements, but there was only one we really wanted and that was the removal of that dead portion of the screen that's dedicated to sensors. Other manufacturers have created circular smartwatches that don't suffer from the same problem, and Motorola has had more than a year to solve it, but sadly it focused its attention elsewhere and left that glaringly obvious downfall intact.

Nonetheless, we're looking forward to spending some more time with the smartwatch and finding out whether the trade-off is worth it for another wise impressive piece of tech.

Specs

- Android Wear Compatibility
- Works with Android (4.3 or later) and iPhone (5 onwards, with iOS 8.2 or later)

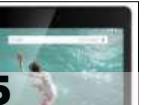
- Backlit LCD display, Gorilla Glass 3.
- 42mm watch: 1.37in, 360x325, 263ppi
- 46mm watch: 1.56in, 360x330, 233ppi
- 42mm watch: 300mAh battery
- 46mm watch: 400mAh battery
- 42mm Wireless charging with included dock
- Qualcomm Snapdragon 400 with 1.2GHz quad-core CPU (APQ 8026)
- Adreno 305, 450MHz GPU
- 4GB internal storage and 512MB RAM
- Bluetooth 4.0 LE
- Wi-Fi 802.11 b/g
- Accelerometer
- Ambient Light Sensor
- Gyroscope
- Vibration/Haptics engine
- Optical heart-rate monitor (PPG)
- IP67 dust and water resistant
- Dual digital mics
- 46x11.4mm or 42x11.4mm



Best smartphones							
1	PC ADVISOR RECOMMENDED	Samsung Galaxy S6	Sony Xperia Z3 Compact	LG G4	LG G3	HTC One M9	5
Price	£349 inc VAT	£349 inc VAT	£500 inc VAT	£479 inc VAT	£579 inc VAT		PC ADVISOR RECOMMENDED
Website	Samsung.com/uk	Sony.co.uk	Lg.com/uk	Lg.com/uk	HTC.com/uk		PC ADVISOR RECOMMENDED
Launch date	Apr 15	Sep 14	May 15	May 14	Mar 15		PC ADVISOR RECOMMENDED
Build rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★		PC ADVISOR RECOMMENDED
Features rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★		PC ADVISOR RECOMMENDED
Performance rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★		PC ADVISOR RECOMMENDED
Value rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★		PC ADVISOR RECOMMENDED
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★		PC ADVISOR RECOMMENDED
OS (out of box)	Android 5.0 Lollipop	Android 4.4 KitKat	Android 5.1 Lollipop	Android 4.4 KitKat	Android 5.0 Lollipop		PC ADVISOR RECOMMENDED
Processor	2.1GHz Exynos 7420	2.5GHz Snapdragon 801	Snapdragon 808 six-core	2.5GHz Snapdragon 801	Snapdragon 810 octa-core		PC ADVISOR RECOMMENDED
RAM	3GB	2GB	3GB	2GB/3GB	3GB		PC ADVISOR RECOMMENDED
Storage	32/64GB	16GB	32GB	16GB/32GB	32GB		PC ADVISOR RECOMMENDED
MicroSD support	No	Up to 128GB	Up to 128GB	No	Up to 128GB		PC ADVISOR RECOMMENDED
Graphics	Mali-T760 GPU	Adreno 330	Adreno 418	Adreno 330	Adreno 430		PC ADVISOR RECOMMENDED
Screen size	5.1in	4.6in	4.5in	5.5in	5in		PC ADVISOR RECOMMENDED
Screen resolution	1440x2560	720x1280	1440x2560	1440x2560	1080x1920		PC ADVISOR RECOMMENDED
Pixel density	577ppi	319ppi	538ppi	534ppi	441ppi		PC ADVISOR RECOMMENDED
Screen technology	Super AMOLED	IPS	IPS	IPS	IPS		PC ADVISOR RECOMMENDED
Front camera	5Mp	2.2Mp	8Mp	2Mp	4Mp (UltraPixel)		PC ADVISOR RECOMMENDED
Rear camera	16Mp, LED flash	20.7Mp, LED flash	16Mp	13Mp, LED flash	20Mp		PC ADVISOR RECOMMENDED
Video recording	4K	4K	4K	4K	4K		PC ADVISOR RECOMMENDED
Cellular connectivity	4G	4G	4G	4G	4G		PC ADVISOR RECOMMENDED
SIM type	Nano-SIM	Nano-SIM	Micro-SIM	Micro-SIM	Nano-SIM		PC ADVISOR RECOMMENDED
Dual-SIM as standard	No	No	No	No	No		PC ADVISOR RECOMMENDED
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band		PC ADVISOR RECOMMENDED
Bluetooth	Bluetooth 4.1	Bluetooth 4.0	Bluetooth 4.1	Bluetooth 4.0 (aptX)	Bluetooth 4.1 (aptX)		PC ADVISOR RECOMMENDED
GPS	GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	GPS, Glonass		PC ADVISOR RECOMMENDED
NFC	Yes	Yes	Yes	Yes	Yes		PC ADVISOR RECOMMENDED
USB OTG	Yes	Yes	Yes	Yes	Yes		PC ADVISOR RECOMMENDED
Extra features	Heart-rate sensor, fingerprint scanner	Waterproof, PS4 Remote Play	24-bit/192kHz audio, rear key	24-bit/192kHz audio, rear key	BoomSound speakers		PC ADVISOR RECOMMENDED
Geekbench 3.0 (single)	1347	Not tested	Not tested	Not tested	1160		PC ADVISOR RECOMMENDED
Geekbench 3.0 (multi)	4438	2800	3513	2465	3378		PC ADVISOR RECOMMENDED
SunSpider	1048ms	944ms	715ms	959ms	867ms		PC ADVISOR RECOMMENDED
GFXBench: T-Rex	30fps	41fps	25fps	20fps	50fps		PC ADVISOR RECOMMENDED
GFXBench: Manhattan	14fps	26fps	9fps	Not tested	24fps		PC ADVISOR RECOMMENDED
Battery	2550mAh, non-removable	2600mAh, non-removable	3000mAh removable	3000mAh, removable, Qi	2840mAh, non-removable		PC ADVISOR RECOMMENDED
Dimensions	143.4x70.5x6.8mm	64.9x127x8.6mm	64.9x127x8.6mm	75x146x8.9mm	70x145x9.7mm		PC ADVISOR RECOMMENDED
Weight	138g	129g	155g	149g	157g		PC ADVISOR RECOMMENDED
Warranty	1 year	2 years	1 year	1 year	1 year		PC ADVISOR RECOMMENDED
FULL REVIEW	TINYURL.COM/PC2KOQO	TINYURL.COM/NBBUY82	TINYURL.COM/NBBUY82	TINYURL.COM/0A76T73	TINYURL.COM/PUS2XEJ		PC ADVISOR RECOMMENDED

Best budget smartphones	1  PC ADVISOR RECOMMENDED	2  PC ADVISOR RECOMMENDED	3 	4 	5  PC ADVISOR RECOMMENDED
Price	£125 inc VAT	£109 inc VAT	£79 inc VAT	£99 inc VAT	£140 inc VAT
Website	Vodafone.co.uk	Motorola.co.uk	Vodafone.co.uk	EE.co.uk	Motorola.co.uk
Launch date	Jul 15	Feb 15	June 15	June 15	Sep 14
Build rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Features rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Performance rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Value rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OS (out of box)	Android 5.0.2 Lollipop	Android 5.0 Lollipop	Android 5.0.2 Lollipop	Android 5.0 Lollipop	Android 4.4 KitKat
Processor	2.5GHz Snapdragon 615	1.2GHz Snapdragon 410	1.2GHz Snapdragon 410	1.2GHz	1.2GHz Snapdragon 400
RAM	2GB	1GB	1GB	1GB	1GB
Storage	16GB	8GB	8GB	8GB	8GB
MicroSD support	Up to 128GB	Up to 32GB	Up to 64GB	Not stated	Up to 32GB
Graphics	Adreno 405	Adreno 306	Adreno 306	Not stated	Adreno 305
Screen size	5.5in	4.5in	5in	4.7in	5in
Screen resolution	1920x1080	540x960	720x1280	720x1280	720x1280
Pixel density	401ppi	245ppi	294ppi	312ppi	294ppi
Screen technology	IPS	IPS	IPS	IPS	IPS
Front camera	5Mp	0.3Mp	2Mp	2Mp	2Mp
Rear camera	13Mp	5Mp	8Mp	8Mp, LED flash	8Mp, LED flash
Video recording	1080p	720p	1080p	720p	720p
Cellular connectivity	4G	4G	4G	4G	3G
SIM type	Nano-SIM	Micro-SIM	Micro-SIM	Micro-SIM	Micro-SIM
Dual-SIM as standard	No	No	No	No	Yes
Wi-Fi	802.11b/g/n	802.11b/g/n	802.11b/g/n	802.11b/g/n	802.11b/g/n
Bluetooth	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0
GPS	GPS, A-GPS	GPS, A-GPS, Glonass	A-GPS	A-GPS, Glonass	A-GPS, Glonass
NFC	Yes	No	No	No	No
USB OTG	No	No	Yes	Yes	Yes
Extra features	FM radio	Double-twist launches camera, lockscreen alerts	FM radio	Wi-Fi calling	Stereo speakers
Geekbench 3.0 (single)	649	464	464	Not tested	340
Geekbench 3.0 (multi)	2469	1463	1401	1549	1144
SunSpider	1545ms	1301ms	1301ms	1880ms	1526ms
GFXBench: T-Rex	14fps	13fps	9.4fps	10fps	11fps
GFXBench: Manhattan	5.7fps	6fps	3.8fps	4fps	4fps
Battery	3000mAh, non-removable	2390mAh, non-removable	N/S, non-removable	2000mAh, non-removable	2390mAh, non-removable
Dimensions	154x77x9mm	66.8x5.2-12.3x129.9mm	141.65x71.89x9mm	138x67.9x9.5mm	71x142x11mm
Weight	159g	145g	155g	124g	155g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/Q709NXR	TINYURL.COM/Q709NXR	TINYURL.COM/Q5DSNHE	TINYURL.COM/PTXROH4	TINYURL.COM/OA6AH5

Best tablets		1  PC ADVISOR RECOMMENDED	2  PC ADVISOR GOLD	3  PC ADVISOR GOLD	4  PC ADVISOR GOLD	5  PC ADVISOR GOLD
Price	£599 inc VAT	£500 inc VAT	£479 inc VAT	£229 inc VAT	£499 inc VAT	£499 inc VAT
Website	Samsung.com/uk	Lg.com/uk	Lg.com/uk	Oneplus.net	Play.google.com	
Launch date	Sep 14	May 15	May 14	Jul 14	Oct 14	
Build rating	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆
Features rating	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆
Performance rating	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆
Value rating	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆
Overall rating	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆
OS (out of box)	Android 4.4 KitKat	Android 5.1 Lollipop	Android 4.4 KitKat	Cyanogen 11S (Android 4.4)	Android 5.0 Lollipop	
Processor	2.7GHz Snapdragon 805	1.82GHz Snapdragon 808	2.5GHz Snapdragon 801	2.5GHz Snapdragon 801	2.7GHz Snapdragon 805	
RAM	3GB	3GB	2GB/3GB	3GB	3GB	
Storage	32GB	32GB	16GB/32GB	16GB/64GB	32GB/64GB	
MicroSD support	Up to 128GB	Up to 128GB	No	No	No	
Graphics	Adreno 420	Adreno 418	Adreno 330	Adreno 330	Adreno 420	
Screen size	5.7in	5.5in	5.5in	5.5in	5.96in	
Screen resolution	1440x2560	1440x2560	1440x2560	1920x1080	1440x2560	
Pixel density	515ppi	538ppi	534ppi	401ppi	493ppi	
Screen technology	Super AMOLED	IPS	IPS	IPS	IPS	
Front camera	3.7Mp	8Mp	2Mp	5Mp	2Mp	
Rear camera	16Mp, LED flash	16Mp, LED flash	13Mp, LED flash	13Mp, LED flash	13Mp, LED flash	
Video recording	4K	4K	4K	4K	4K	
Cellular connectivity	4G	4G	4G	4G	4G	
SIM type	Micro-SIM	Micro-SIM	Micro-SIM	Micro-SIM	Nano-SIM	
Dual-SIM as standard	No	No	No	No	No	
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	
Bluetooth	Bluetooth 4.1	Bluetooth 4.0	Bluetooth 4.0 (aptX)	Bluetooth 4.0	Bluetooth 4.1	
GPS	GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	GPS, Glonass	GPS, Glonass	
NFC	Yes	Yes	Yes	Yes	Yes	
USB OTG	Yes	Yes	Yes	Yes	Yes	
Extra features	Fingerprint, UV, heart-rate sensors, S Pen stylus	24bit/192kHz audio, rear key, IR blaster	24bit/192kHz audio, rear key	None	None	
Geekbench 3.0 (single)	Not tested	Not tested	Not tested	969	Not tested	
Geekbench 3.0 (multi)	3272	3513	2465	2570	3304	
SunSpider	1367ms	715ms	959ms	877ms	791ms	
GFXBench: T-Rex	27fps	25fps	20fps	29fps	27fps	
GFXBench: Manhattan	11fps	9fps	Not tested	Not tested	12fps	
Battery	3220mAh, removable	3000mAh, removable, Qi	3000mAh, removable, Qi	3100mAh, non-removable	3220mAh, non-removable, Qi	
Dimensions	78.6x153.5x8.5mm	76x149x6.3-9.8mm	75x146x8.9mm	75.9x152.9x8.9mm	82x159x10.4mm	
Weight	176g	155g	149g	162g	183g	
Warranty	2 years	1 year	1 year	1 year	1 year	
FULL REVIEW	TINYURL.COM/PNHJC24	TINYURL.COM/QDGU48T	TINYURL.COM/OA76T73	TINYURL.COM/PK3S5CP	TINYURL.COM/NL4ZUD9	

Best 7- & 8in tablets						
1	PC ADVISOR SOLID	Google Nexus 7	Samsung Galaxy Tab S 8.4	Sony Xperia Z3 Tablet Compact	4	PC ADVISOR RECOMMENDED
2	PC ADVISOR ROCKS				5	PC ADVISOR RECOMMENDED
3	PC ADVISOR RECOMMENDED					
Price	£199 inc VAT	£319 inc VAT	£299 inc VAT	£239 inc VAT	£319 inc VAT	
Website	Play.google.com	Samsung.com/uk	Sony.co.uk	Apple.com/uk	Play.google.com	
Launch date	Aug 13	Aug 14	Sep 14	Oct 13	Oct 14	
Build rating	★★★★☆	★★★★☆	★★★★☆	★★★★★	★★★★☆	
Features rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	
Performance rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	
Value rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	
OS (out of box)	Android 4.3 Jelly Bean	Android 4.4 KitKat	Android 4.4 KitKat	iOS 8.2	Android 5.0 Lollipop	
Processor	1.5GHz Snapdragon S4 Pro	Exynos 5420, octa-core	2.5GHz Snapdragon 801	Apple A7, Apple M7	2.3GHz nVidia Tegra K1	
RAM	2GB	3GB	3GB	1GB	2GB	
Storage	16GB/32GB	16GB/32GB	16GB/32GB	16GB/32GB	16GB/32GB	
MicroSD support	No	Up to 128GB	Up to 128GB	No	No	
Graphics	Adreno 320	ARM Mali-T628 MP6	Adreno 330	Apple A7	192-core Kepler	
Screen size	7in	8.4in	8in	7.9in	8.9in	
Screen resolution	1920x1200	2560x1440	1920x1200	2048x1536	2048x1536	
Pixel density	323ppi	359ppi	283ppi	326ppi	287ppi	
Screen technology	IPS	Super AMOLED	IPS	IPS	IPS	
Front camera	1.2Mp	2.1Mp	2.2Mp	1.2Mp	1.6Mp	
Rear camera	5Mp	8Mp, LED flash	8.1Mp	5Mp	8Mp, LED flash	
Video recording	1080p	1080p	1080p	1080p	1080p	
Cellular connectivity	4G version available	4G version available	4G version available	4G version available	4G version available	
Wi-Fi	802.11b/g/n, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n, dual-band	802.11a/b/g/n/ac, dual-band	
Bluetooth	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.1	
GPS	GPS, Glonass	GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	GPS, Glonass	
NFC	Yes	No	Yes	No	Yes	
USB OTG	Yes	Yes	Yes	No	Yes	
Fingerprint scanner	No	Yes	No	No	No	
Waterproof	No	No	Yes	No	No	
Extra features	None	Stereo speakers	PS4 Remote Play, stereo speakers	None	BoomSound speakers	
Geekbench 3.0 (single)	Not tested	Not tested	Not tested	Not tested	1904	
Geekbench 3.0 (multi)	Not tested	2765	2708	Not tested	3352	
SunSpider	1136ms	1089ms	1017ms	397ms	955ms	
GFXBench: T-Rex	Not tested	14fps	28fps	Not tested	48fps	
GFXBench: Manhattan	Not tested	3fps	11fps	Not tested	22fps	
Battery	3950mAh, non-removable, Qi	4900mAh, non-removable	4500mAh, non-removable	6470mAh, non-removable	6700mAh, non-removable	
Dimensions	200x14x8.65mm	126x213x6.6mm	213x124x6.4mm	134.7x7.5x200mm	153.7x228.3x8mm	
Weight	299g	294g	270g	331g	425g	
Warranty	1 year	1 year	1 year	1 year	1 year	
FULL REVIEW	TINYURL.COM/PUJDJBY	TINYURL.COM/OUEM64Z	TINYURL.COM/NJ6VHEO	TINYURL.COM/PCJPB5L	TINYURL.COM/NQ6K7TY	

Best 9- & 10in tablets		1 PC ADVISOR GOLD	2 PC ADVISOR RECOMMENDED	3 PC ADVISOR RECOMMENDED	4 PC ADVISOR RECOMMENDED	5 PC ADVISOR RECOMMENDED
Price	£399 inc VAT	£399 inc VAT	£369 inc VAT	£319 inc VAT	£389 inc VAT	
Website	Apple.com/uk	Samsung.com/uk	Sony.co.uk	Apple.com/uk	Play.google.com	
Launch date	Oct 14	Aug 14	Mar 14	Oct 13	Oct 12	
Build rating	★★★★★	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	
Features rating	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	
Performance rating	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	
Value rating	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	
Overall rating	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	★★★★★☆	
OS (out of box)	iOS 8.2	Android 4.4 KitKat	Android 4.4 KitKat	iOS 8.2	Android 4.2 Jelly Bean	
Processor	Apple A8X, Apple M8	Exynos 5420, octa-core	2.3GHz Snapdragon 801	Apple A7, Apple M7	1.7GHz Exynos 5250	
RAM	2GB	3GB	3GB	1GB	2GB	
Storage	16GB/64GB/128GB	16GB/32GB	16GB	16GB/32GB	16GB/32GB	
MicroSD support	No	Up to 128GB	Up to 64GB	No	No	
Graphics	Apple A8X	ARM Mali-T628 MP6	Adreno 330	Apple A7	ARM Mali T604	
Screen size	9.7in	10.5in	10.1in	9.7in	10.1in	
Screen resolution	2048x1536	2560x1600	1920x1200	2048x1536	2560x1600	
Pixel density	264ppi	288ppi	224ppi	264ppi	300ppi	
Screen technology	IPS	Super AMOLED	IPS	IPS	IPS	
Front camera	1.2Mp	2.1Mp	2.2Mp	1.2Mp	1.9Mp	
Rear camera	8Mp	8Mp, LED flash	8.1Mp	5Mp	5Mp, LED flash	
Video recording	1080p	1080p	1080p	1080p	1080p	
Cellular connectivity	4G version available	4G version available	4G version available	4G version available	No	
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n, dual-band	802.11b/g/n, dual-band	
Bluetooth	Bluetooth 4.0					
GPS	A-GPS, Glonass	GPS, Glonass	GPS, Glonass	A-GPS, Glonass	GPS, Glonass	
NFC	Yes (for Apple Pay)	No	Yes	No	Yes	
USB OTG	No	Yes	Yes	No	Yes	
Fingerprint scanner	Yes	Yes	No	No	No	
Waterproof	No	No	Yes	No	No	
Extra features	None	Stereo speakers	PlayStation certified	None	None	
Geekbench 3.0 (single)	1816	Not tested	967	1487	Not tested	
Geekbench 3.0 (multi)	4523	2769	2719	2703	Not tested	
SunSpider	Not tested	1079ms	1099ms	400ms	1329ms	
GFXBench: T-Rex	48fps	14fps	27fps	23fps	Not tested	
GFXBench: Manhattan	Not tested	3fps	Not tested	Not tested	Not tested	
Battery	7340mAh, non-removable	7900mAh, non-removable	6000mAh, non-removable	8600mAh, non-removable	9000mAh, non-removable	
Dimensions	240x169.5x6.1mm	247x177x6.6mm	266x172x6.4mm	240x169x7.5mm	264x178x8.9mm	
Weight	437g	465g	439g	469g	603g	
Warranty	1 year					
FULL REVIEW	TINYURL.COM/PLQXWSZ	TINYURL.COM/OESDFZQ	TINYURL.COM/M8BZZUN	TINYURL.COM/NVOOF6H	TINYURL.COM/PUAG9RN	

Best smartwatches		1  PC ADVISOR RECOMMENDED	2  PC ADVISOR RECOMMENDED	3  PC ADVISOR RECOMMENDED	4  PC ADVISOR RECOMMENDED	5  PC ADVISOR RECOMMENDED
Price	£195 inc VAT	£199 inc VAT	£189 inc VAT	£259 inc VAT	£199 inc VAT	£199 inc VAT
Website	Lg.com/uk	Motorola.co.uk	Sony.co.uk	Lg.com/uk	Uk.asus.com	
Launch date	Nov 14	Oct 14	Sep 14	Jul 15	Jan 15	
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Operating system	Android Wear	Android Wear	Android Wear	Android Wear	Android Wear	Android Wear
Compatibility	Android	Android	Android	Android	Android	Android
Display	1.3in 320x320 P-OLED	1.56in 290x320 LCD	1.6in 320x320 LCD	1.3in 320x320 P-OLED	1.6in 320x320 AMOLED	
Processor	1.2GHz Snapdragon 400	Ti OMAP 3	1.2GHz ARM V7	1.2GHz Snapdragon 400	1.2GHz Snapdragon 400	
RAM	512MB	512MB	512MB	512MB	512MB	
Storage	4GB	4GB	4GB	4GB	4GB	
Waterproof	Yes	Yes	Yes	Yes	Yes	
Battery	410mAh	320mAh	420mAh	410mAh	1.4Wh	
Dimensions	46.4x53.6x9.7mm	46x11.5mm	36x51x10mm	46x52x10.9mm	51x39.9x7.9-9.4mm	
Weight	62g	49g (leather band model)	45g	67g	75g	
Warranty	1 year	1 year	1 year	1 year	1 year	
FULL REVIEW	TINYURL.COM/QATY8FT	TINYURL.COM/09C69K6	TINYURL.COM/OQVZ3PN	TINYURL.COM/Q3VK7ES	TINYURL.COM/NN7GA7W	

Best smartwatches		6  PC ADVISOR RECOMMENDED	7  PC ADVISOR RECOMMENDED	8  PC ADVISOR RECOMMENDED	9  PC ADVISOR RECOMMENDED	10  PC ADVISOR RECOMMENDED
Price	£299 inc VAT	£179 inc VAT	£159 inc VAT	£125 inc VAT	£169 inc VAT	
Website	Apple.com/uk	Getpebble.com	Lg.com/uk	Sony.co.uk	Samsung.com/uk	
Launch date	Apr 15	Sep 14	Jul 14	Jun 13	Apr 14	
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Operating system	watchOS	Proprietary	Android Wear	Proprietary	Tizen	
Compatibility	iOS	iOS, Android	Android	Android	Samsung phones	
Display	1.32in 340x312 Ion-X Glass	1.26in 144x168 E-Paper	1.65in 280x280 IPS	1.6in 220x176 LCD	1.6in 320x320 Super AMOLED	
Processor	Apple S1	Not specified	1.2GHz Snapdragon 400	Not specified	Dual-core	
RAM	512MB	512MB	512MB	Not specified	512MB	
Storage	8GB	Not specified	4GB	Not specified	4GB	
Waterproof	Yes	Yes	Yes	Yes	Yes	
Battery	Not specified	130mAh	400mAh	Not specified	300mAh	
Dimensions	38.6x33.3x10.5mm	46x34x10.5mm	37.9x46.5x9.95mm	42x41x9mm	58.8x37.9x10mm	
Weight	72g	156g	63g	123g	55g	
Warranty	1 year	1 year	1 year	1 year	1 year	
FULL REVIEW	TINYURL.COM/OUTH9XK	TINYURL.COM/PPBXV7J	TINYURL.COM/Q84WL6L	TINYURL.COM/P4X7AZM	TINYURL.COM/Q68FS5U	

Best activity trackers		1  <small>PC ADVISOR RECOMMENDED</small>	2 	3 	4  <small>PC ADVISOR RECOMMENDED</small>	5  <small>PC ADVISOR RECOMMENDED</small>
Price	£119 inc VAT	£199 inc VAT	£79 inc VAT	£169 inc VAT	£99 inc VAT	
Website	Fitbit.com/uk	Fitbit.com/uk	Fitbit.com/uk	Microsoft.com/en-gb	Fitbit.com/uk	
Launch date	Jan 15	Jan 15	Jan 14	May 15	Nov 14	
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	
Compatibility	iOS, Android, Windows	iOS, Android, Windows	iOS, Android	iOS, Android, Windows	iOS, Android, Windows	
Display	OLED	Touchscreen	OLED	TFT	OLED	
Pedometer	Yes	Yes	Yes	Yes	Yes	
Heart-rate monitor	Yes	Yes	No	Yes	No	
Sleep tracking	Yes	Yes	Yes	Yes	Yes	
Alarm	Yes	Yes	Yes	Yes	Yes	
Third-party app synching	Yes	Yes	Yes	Yes	Yes	
Call notifications	Yes	Yes	No	Yes	Yes	
Waterproof	Yes	Yes	No	Yes	Yes	
Battery life	5+ days	5 days	10-14 days	2 days	7-10 days	
Dimensions, weight	21mm, 26g	34mm, 51g	35.5x28x9.65mm, 8g	11x33mm, 60g	21mm, 24g	
FULL REVIEW	TINYURL.COM/PCKV4SU	TINYURL.COM/O83DR47	TINYURL.COM/PT2TC6F	TINYURL.COM/LHMQ2AC	TINYURL.COM/PFMQ9KH	

Best activity trackers		6  <small>PC ADVISOR RECOMMENDED</small>	7  <small>PC ADVISOR RECOMMENDED</small>	8 	9  <small>PC ADVISOR RECOMMENDED</small>	10 
Price	£169 inc VAT	£29 inc VAT	£89 inc VAT	£39 inc VAT	£99 inc VAT	
Website	En-gb.mybasis.com	Mobilefun.co.uk	Jawbone.com	Jawbone.com	Jawbone.com	
Launch date	Apr 15	Feb 15	June 15	Nov 14	Mar 14	
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	
Compatibility	iOS, Android	iOS, Android	iOS, Android	iOS, Android	iOS, Android	
Display	E-Ink	No	No	No	No	
Pedometer	Yes	Yes	Yes	Yes	Yes	
Heart-rate monitor	Yes	No	No	No	No	
Sleep tracking	Yes	Yes	Yes	Yes	Yes	
Alarm	No	Yes	Yes	No	Yes	
Third-party app synching	No	No	Yes	Yes	Yes	
Call notifications	Yes	Yes	No	No	No	
Waterproof	Yes	Yes	Splashproof	Splashproof	Splashproof	
Battery life	4 days	30 days	7 days	Six months, non-rechargeable	7 days	
Dimensions, weight	33x43x10mm, 51g	157x205mm, 13g	220x11.5x3.8.5mm, 25g	27.6x27.6x9.8mm, 6.8g	S: 19g, M: 22g, L: 23g	
FULL REVIEW	TINYURL.COM/LHMQ2AC	TINYURL.COM/O3ZYVCR	TINYURL.COM/PHT9BZK	TINYURL.COM/PFXQFNE	TINYURL.COM/ND8YMB8	

Best power banks						
1	PC ADVISOR GOLD	Zendure A2 (2nd gen)	Xiaomi 10,000mAh	iHarbot Power Bank MS024	Anker Astro Mini	Intocircuit Power Castle
Price	£25 inc VAT	£11 inc VAT	£7.50 inc VAT	£13 inc VAT	£22 inc VAT	
Website	Zenure.com	mi.com/en	Amazon.co.uk	lanker.com	Hisgadget.com	
Launch date	Aug 15	May 15	Jun 15	Apr 13	Mar 13	
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Capacity	6400mAh	10,000mAh	5000mAh	3200mAh	11200mAh	
Input	1x 7.5W Micro-USB	1x 10W Micro-USB	1x 10.5W Micro-USB	1x 4W Micro-USB	1x 5W Micro-USB	
Outputs	1x 10.5W USB	1x 10.5W USB	1x 10W USB	1x 5W USB	1x 10.5W USB, 1x 5W USB	
Auto-on/-off	Yes	Yes	Auto-on	No	Auto-on	
Passsthrough charging	Yes	Yes	Yes	No	Yes	
Status indicator	4 LEDs	4 LEDs	4 LEDs	No	LCD screen	
LED flashlight	No	No	No	No	Yes	
Carry case	Yes	No	No	Yes	Yes	
Dimensions	93x48x23mm	91x60.4x22mm	118x11.6x63mm	92x23x23mm	110x71x22mm	
Weight	137g	207g	150g	80g	280g	
Warranty	1 year	1 year	18 months	18 months	1 year	
FULL REVIEW	TINYURL.COM/NGCN05F	TINYURL.COM/NFQZOCB	TINYURL.COM/PV02LEC	TINYURL.COM/PZHUHJO	TINYURL.COM/P5M9NKE	

Best desktop chargers						
1	PC ADVISOR RECOMMENDED	iClever USB Travel Charger	Zendure Turbo Charger	Olxar Smart IC Charger	Inateck USB Charger	Lumsing 5-Port Charger
Price	£20 inc VAT	£25 inc VAT	£34 inc VAT	£15 inc VAT	£8 inc VAT	
Website	Hisgadget.com	Zenure.com	Mobilefun.co.uk	Inateck.com	Lumsing.com	
Launch date	Oct 14	May 14	Feb 15	Feb 14	Apr 14	
Overall rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Max output	50W	40W	50W	35W	30W	
Outputs:	USB 1 12W USB	12W USB	12.5W USB	10.5W USB	10W USB	
	USB 2 12W USB	12W USB	12.5W USB	10.5W USB	10W USB	
	USB 3 12W USB	12W USB	12.5W USB	5W USB	10W USB	
	USB 4 12W USB	12W USB	12.5W USB	5W USB	5W USB	
	USB 5 12W USB	12W USB	12.5W USB	5W USB	5W USB	
	USB 6 12W USB	N/A	12.5W USB	N/A	N/A	
Colours available	Black	Black, white	White	Black	Black	
Dimensions	100x69x27mm	97x60x27mm	100x69x26mm	100x55x20mm	136x68x30mm	
Weight	180g	166g	189g	340g	422g	
Warranty	1 year	1 year	2 years	1 year	1 year	
FULL REVIEW	TINYURL.COM/MPA4DWC	TINYURL.COM/NKYNJ7P	TINYURL.COM/OCZXK93	TINYURL.COM/KBXUHDF	TINYURL.COM/LK220GY	

